1-10-16-10M

S. 2. A

PER

PRESENTED TO

The New York Academy of Medicine

By The Publisher

19

FORTY-FOURTH ANNUAL SESSION — ATLANTIC BEACH — MAY, 1917

THE JOURNAL
— OF THE —
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III
No. 1

St. Augustine and Jacksonville, Fla., July, 1916

Yearly Subscription, $1.00
Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

Acidosis in Infancy and Childhood, James D. Love, M. D. 1

Acidosis, R. H. Knowlton, M. D. 4

Acidosis in Children, J. M. Grantham, M. D. 8

Pyelitis of Infancy, J. W. West, M. D. 10

The Importance of Muscle Repair in Perineorrhaphy, A. C. Ives, M. D. 11

Diagnosis and Treatment of Chronic Gonorrhœa in the Female, George A. Lassman, M. D. 13

The Bacteriology and the Channels of Invasion in Acute Otitis Media, Frederick J. Walter, M. D. 16

Propaganda for Reform 17

EDITORIALS

The National Defense Bill and the Army Medical Service 20

The Army Medical Service as a Career: An Opportunity 21

Disease Dangers of War With Mexico 22

The Centennial of the Stethoscope 23

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Mead's Dextri-Maltose

Removal from the East to the Middle West

OLD FACTORY
Jersey City, 18,000 sq. ft. floor space.

Mead's Dextri-Maltose having exhausted the manufacturing capacity of its old home in Jersey City, N. J., has been removed to a new and vastly larger housing in Evansville, Ind., a location nearer the raw materials used in its production and nearer the center of transportation.

A result of making an excellent food ingredient for bottle babies and distributing it through physicians only—**90 per cent.** of the real infant feeders in the United States are now using (wholly or partly) Mead's Dextri-Maltose to supplement the sugar deficiency of cows' milk. The future address of the makers of Mead's Dextri-Maltose will be

NEW PLANT—Sixteen Times Larger than Old. 300,000 sq. ft. of floor space.

Mead Johnson & Company
Evansville, Ind.

107732

A Temporary Diet for Infants in Summer Diarrhea

Mellin's Food
4 level tablespoonfuls
Water (boiled, then cooled)
16 fluidounces

Each ounce of this mixture has a food value of 6.2 calories—affording sufficient nourishment and in a form readily assimilable.

CONTENTS — *Continued*

Cancer Department 24

Medical Corps of the U. S. Navy..... 25

The Three "C's" of Caring for Milk in the Home 25

Warning 26

REVIEWS FROM CURRENT LITERATURE

Diagnosis of Tuberculosis 27
Pregnancy in the Tuberculous 28
Sugars and Starches in Infant Feeding..... 28
The Luetin Reaction in Congenital Syphilis.. 29
Value of Autoserum in Skin Diseases..... 29
Roentgen Diagnosis of Gall Stones..... 30
Treatment of Carbuncle by the Roentgen Ray 30
Tuberculosis 31

Publisher's Notes 32

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, July, 1916 Number 1

ORIGINAL ARTICLES

ACIDOSIS IN INFANCY AND CHILDHOOD.*

James D. Love, M. D.,
Jacksonville, Fla.

Not a few writers refer to acidosis and acid intoxication in a manner as to warrant the inference that it is a distinct disease with definite etiology, symptomatology and treatment. On the other hand, there are those who hold acidosis to be but a part of some basic condition which gives itself expression through a definite collection of symptoms and signs.

An element of danger exists in regarding acidosis as a disease *per se*, in that in attaching to it too much significance, we may be led to overlook certain conditions which are directly responsible. On the other hand, the group of symptoms constituting acidosis often proves so dangerous as to warrant our attaching more importance to its treatment than to the actual causal condition or disease.

A definition of acidosis is incomplete without a mention of the various phenomena which at one time or another may enter into its constitution. The condition is usually, though not always, accompanied by the presence in the urine of acetone, diacetic and beta-oxybutyric acids, an increase in the ammonia salts of the urine, a reduction of the carbon dioxid tension of the alveolar air, an increase in the hydrogen ion concentrate of the blood, and a reduction in the amount of urine passed. In addition there are certain subjective and objective signs which when present constitute a definite picture of acidosis or acid intoxication. Those most conspicuous and consistently present are marked prostration, air hunger or hyperpnea, the respirations being both rapid and deep, either stupor or restlessness, nausea, coated tongue, cherry-red lips, marked pallor, acetone odor to the breath, unduly low temperature of the expired air, retracted abdomen, enlarged liver, marked weakness of circulation, and an irregular temperature curve. It goes without saying that all this grouping of symptoms, so unmistakably those of acidosis of marked severity, should not be expected in any given case.

In many cases the etiology of acidosis is exceedingly obscure and due to perverted function of metabolism, the nature of which is not understood. In many other cases the cause is obvious, and for the most part can be assigned to one of the infectious diseases or to some disorder of digestion and nutrition. We, therefore, refer to the "infectious type" and "digestive type" of acidosis. Mild or moderately severe cases are spoken of as "acidosis," while severe cases are referred to as "acid intoxication." Any acute infectious disease is capable of precipitating an attack of acidosis; those oftenest responsible being infectious diarrhea, intestinal intoxication, tonsilitis, bronchitis, pneumonia, otitis media, appendicitis, and any of the severely acute exanthems. It may be produced by general anæsthesia, severe burns, starvation, cachexia, diabetes, nervous disturbances due to fright, hepatic lesions of several varieties, protracted vomiting, and finally and most frequently to faulty digestion of fats and carbohydrates. This array of causal maladies should in itself lead us to doubt the existence of acidosis as a disease *per se*, and should incline us to the view that acidosis is a symptom complex standing in a direct relation to many known diseases and conditions. But lest we

*Read by title before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

minimize the importance of acidosis by regarding it as a symptom purely, I would emphasize the fact that just as pyrexia in itself constitutes an element of danger in many conditions with which it is associated, so does acidosis frequently assume a position more formidable and dangerous than the underlying disease or condition. No matter what the concomitant disease, acidosis aggravates it. It complicates and retards the course of many maladies, prolongs convalescence, lessens the power of vital resistance, and not infrequently is the prime factor in causing death itself.

While acidosis is dependent on many factors, we must not lose sight of the fact that it is essentially an expression of perverted metabolism. We hold this to be true no matter how imperfect is our knowledge of the various processes through which this disturbed function is brought about. It is equally sure that no matter what the cause, an early recognition of the condition is imperative. The earlier it is recognized and treated, the greater the success that will attend our efforts.

Without doubt the "digestive" type of acidosis is sufficiently understood to warrant some dogmatic assertions relative to etiology, symptomatology and treatment. The term "acidosis" designates not an acid condition of the circulating fluids and tissues of the body, but a relative lessening of their alkalinity due to a neutralization of alkalies or withdrawal of basic salts from the body. In conditions of health there is constantly maintained a pretty definite fixed alkali content of the blood and tissues. In considering digestive acidosis, we presuppose an excessive production of organic acid in the intestines as the prime contributing factor. Any ordinary amount of acid, whether it originates within the intestines or is formed within the body or exists through virtue of defective elimination of acids by the kidneys or other organs, is oxidized without difficulty. If, however, acid exists in excessive quantity, the available fixed alkalies of the system, potassium and sodium, are insufficient for its neutralization, and the ammonia of the body is called upon to take the place of the depleted alkalies. Then it is that ammonia salts are formed, to subsequently be excreted by the kidneys. Ammonia compounds are a fairly constant condition of the organism, owing their origin to the transformation to such of nitrogenous constituents of food. Normally these ammonia compounds undergo further conversion into urea and are excreted as such in the urine. But when ammonia is called upon to take the place of the fixed alkalies in order to neutralize unoxidized acids, then as a consequence there is shown a dimunition of urea in the urine and an increase of ammonia salts. Coincident with this there usually appear in the urine acetone and finally diacetic and beta-oxybutyric acids. The next question to consider is the origin of the acids which cause this disturbance. They may arise in the economy through faulty metabolic processes and perverted liver function, possibly, as suggested by Howland and Marriott, to deficient kidney excretion of acid phosphate and more certainly to acids created in the intestinal tract. It is generally conceded that any of the food elements may, owing to faulty digestion, over-feeding or digestive intolerance, be responsible for the excessive production of acids within the intestines. Of these food elements the fats are the chief offenders, next the carbohydrates and finally the proteids. As a result of fat intolerance there may be produced any of the group of fatty acids, and in like manner lactic acid may be the resultant of imperfect digestion of carbohydrates and even of proteids. Though it has not been conclusively proven that lactic acid is a cause of acidosis. Of the acids commonly held responsible for acidosis are diacetic, beta-oxybutyric, glycuronic, oxalic, and lactic acids, to which possibly may be added acid phosphate and various amino acids. It is unlikely that any one class of foods is at any time solely respon-

sible for acidosis; for it is generally recognized that the complete combustion of fats requires simultaneous oxidation of carbohydrates. Furthermore it is rare that imperfect digestion remains long confined to any one element of food. While lactic acid is said to be an etiologic factor in the production of acidosis, this is denied by some authorities. However, we know that acidosis is very frequently associated with enlarged liver and presumably with imperfect catabolism of glycogen; and since lactic acid is one of the products of this perverted metabolic process, it is more than probable that lactic acid can be assigned a role in the production of acidosis. If so, it may be a tenable theory that the excessive production of lactic acid by the Bulgarian bacillus, when administered medicinally, may cause or aggravate an already existing acidosis. For this reason we are cautioned against the employment of the Bulgarian bacillus in conditions associated with anæmia, cachexia, and emaciation, all of which conditions are likely to be associated with an acidosis. It must be remembered that many children are predisposed to acidosis and develop its symptoms complex on the slightest provocation. This explains why many usually simple and harmless conditions take on a serious aspect in many children out of all proportion to what might reasonably be expected. Almost daily we encounter children who are subject to frequent recurrent and periodic attacks of fever lasting from one to three days. In the vast majority of such cases the fever is caused by a fat and carbohydrate indigestion associated with some degree of acidosis. Instead of treating such children for malaria we do much better by correcting a faulty diet and administering as long as necessary some alkaline medication. The results thus secured are often as striking as they are gratifying. Cyclic and recurrent vomiting are conditions usually associated with acidosis, but there is a diversity of opinion as to whether the existing acidosis is a cause or effect of the vomiting.

The modern surgeon is awake to the possibilities of surgical acidosis and recognizes it as a frequent cause of profound shock. In the light of its relationship to anæsthesia and prolonged surgical operations, a routine examination of the urine for acetone is as imperative as an examination for albumin. And in all operations of election the presence of acidosis either indicates a postponement of operation or a radical treatment of the condition both before and after such operation.

Assuredly the existence of acidosis is a contraindication to prolonged starvation following operative procedure. As to the significance of acid intoxication, it has been my observation that it usually portends a fatal termination in young infants, no matter what the underlying cause might be. It is an exceedingly dangerous complication in all children when it exists to such an extent as to cause a marked acetone odor to the breath and stools. When it is accompanied by marked enlargement of the liver and where the exhaled air is of a lower temperature than is seemingly warranted by the patient's general condition, the prognosis is as grave as possible. I have seen patients in a moribund condition due to marked acid intoxication, and yet the cherry-red lips would impart to the face such an appearance of good circulatory conditions as to materially mislead one in the immediate prognosis. No case of acidosis in childhood can be safely disregarded, for the reason that while it may be but a transitory condition, it may on the other hand be the precursor of a serious acid intoxication. No matter what may be the underlying cause of the acidosis, even though it be undiscoverable, it is imperative that this symptom complex be vigorously and promptly treated. In view of what is generally conceded to be causes of acidosis, it occurs to me as a rational procedure that we should employ prophylactic measures against the occurrence of

this condition in all cases of illness known to be commonly associated with acidosis. In acute infectious diseases of all kinds, and especially in diarrheal disturbances, we should not wait for the development of acidosis but should anticipate it by the administration of sufficient sodium bicarbonate to render the urine alkaline. If administered before the development of acidosis much less of the bicarbonate is necessary to alkalinize the urine than is the case when acidosis is well established. This is explained by the fact that children suffering with an acid intoxication show a marked tolerance to alkaline therapy. When given as a prophylactic measure, about forty to fifty grains of bicarbonate of soda daily is sufficient to keep the urine decidedly alkaline. If, however, an acidosis becomes established, about four or five times this amount is needed. Potassium citrate in nearly the same doses will accomplish the same purpose, if tolerated by the stomach. Thirty grains of soda in two ounces of water may be administered by rectum every two hours or administered by the drop method, if no diarrhea exists. In severe cases it is more desirable to employ the intravenous method of administration of soda. Three to five ounces of a four per cent solution repeated in three hours, if necessary, will give quicker results than any other method. On account of its irritating quality, bicarbonate of soda can not well be administered subcutaneously or intramuscularly. Since the glycogenic function of the liver is usually impaired in acid intoxication, the administration of dextrose by hypodermoclysis rests on a rational and practical basis. Four ounces of a two-and-a-half per cent solution of dextrose in normal salt solution may be given three to four times a day. If constipation exists, magnesia is the preferable laxative. Fats should be excluded from the dietary and likewise the readily fermentable carbohydrates. Well cooked cereal gruels with weak broths should be relied upon till the patient's condition warrants a more liberal dietary. An abundance of water should be administered both in the hope of diluting excessive acid and stimulating kidney secretion.

In conclusion it may be admitted that acidosis is a condition still veiled in obscurity, that much concerning etiology still remains to be proven, that many of the suggestions contained in this article are subject to radical revision and alteration as our knowledge of acidosis becomes more complete.

Bibliography.

The Theories of Acidosis in Children. M. Y. Marshall, Archives of Pediatrics, Vol. XXXI, p. 121.

Fallacy of Indiscriminate Use of Bulgarian Bacillus. Orvall Smiley, Journal A. M. A., Vol. LXV, p. 1025.

Estimation of Carbon Dioxid Tension in Alveolar Air. Paul Roth, Journal A. M. A., Vol. LXV, p. 413.

The Ammoniacal Diaper. Thos. S. Southworth, Archives Pediatrics, Vol. XXX, p. 732.

Acidosis. Howland and Marriott, Bulletin Johns Hopkins Hospital, March, XXVII, 1916.

Acidosis Occurring with Diarrhœa. Howland and Marriott, Am. Journal Diseases of Children, Vol. II, p. 309.

ACIDOSIS.*

R. H. Knowlton, M. D.,
St. Petersburg, Fla.

As this is not the only paper on this subject presented this afternoon I will confine myself largely to some personal observations and case reports, omitting entirely the consideration of etiology and chemistry. I do not intend at this time to consider the acidosis of diabetes, that following surgical operations, pernicious vomiting of pregnancy or that found in heart lesions. I wish, however, to refer to the so-called "acidosis" in acute infections but mainly to that form which seems to me to be a primary disease.

At a medical meeting last December a colleague remarked that many of the cases of "grippe" which was then becoming epidemic had severe vomiting. I collected as many specimens of urine as possible from

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

these cases and found that many showed considerable acetone and some also had diacetic acid. This appeared to explain the vomiting, particularly as the alkaline treatment relieved it. As time went on and the cases became more numerous, I examined urines in cases of "grippe" which had no vomiting and often found acetone and diacetic acid occasionally. These cases were by no means confined to children but all ages were affected. In my own family, for instance, there were two cases, one in a baby and the other in an adult. Both cases had fever as the main symptom, neither showed any particular symptoms of acid intoxication but both had acetone and diacetic acid in the urine. It was therefore soon apparent that the epidemic was one of "grippe," sometimes with evidence of a mild acidosis secondary to a bacterial infection. I am led to speak of this subject somewhat at length because of certain newspaper reports of an epidemic of acidosis in the North. Morse,[1] in a careful presentation of the subject, is of the opinion that in the vast majority of cases reported as acidosis, in Boston, there was no justification for this diagnosis. Also that in the routine examination of urines in the Boston Children's Hospital, acetone and diacetic acid were found so often that no attention was paid to them unless there were symptoms of acid intoxication. On the other hand Metcalf[2] described a series of 100 cases in Concord, N. H., in which there were definite symptoms of acid intoxication. Whatever the disease may have been in the North, my observations in Florida are that it is a misnomer to speak of an epidemic of acidosis as the acetone bodies are of common occurrence in acute infections. In such cases the acidosis, if present, is not the disease but a symptom and secondary to a primary infection. For instance there recently occurred two cases in children, one in my own practice and one seen with Dr. Wilcox, in which, at first, practically the only symptom was a high fever. The urines of both children contained a moderate amount of acetone but no diacetic acid. As there seemed to be little else to go on both were given the alkaline treatment in spite of the absence of any symptoms of acid intoxication. No benefit was apparent in either case and one proved to be a pneumonia and the other typhoid fever. I do not wish to minimize the importance of examining the urine in all such cases, particularly when there is vomiting, and instituting the alkaline treatment whenever there is the least indication, for within reasonable limits it can do no harm and may do much good.

I now wish to present briefly a few cases of what I consider to be true cases of acid intoxication, apparently secondary to no other disease.

Case 1. W. C., aged 6, became ill on June 20th, with vomiting supposed but not known to have followed the eating of green peaches. As the child insisted that she ate none and as no peach skins were ever discovered in the stools, it is probable that this had nothing to do with it. Castor oil was administered without result and calomel, salts and repeated high enemas likewise failed to produce a bowel movement. The father, who was a retired physician, became alarmed at her condition as the days went by, with the child getting gradually worse. An intestinal obstruction was feared and an operation had been considered. I first saw the child on June 25th, five days after the onset. The vomiting had by that time ceased but there had still been no bowel movement. The parents stated that there had been a slight fever and in the beginning some distention which had been relieved by the enemas.

Physical examination showed practically a normal pulse and temperature but there was a little dyspnœa. There also was a pallid ring around the mouth. There was a very dull expression and the child was markedly

[1]Morse, John Lovett. Boston Medical and Surgical Journal, April 20, 1916.

[2]Metcalf, C. R. Amer. Jour. Dis. Children, January, 1913.

listless and drowsy. The thorax was normal and the abdomen slightly distended but otherwise negative. However, the general appearance was so bad that the mother had practically given up hope of the child's life. There was a very distinct acetone odor to the breath which, of course, gave the clue to the diagnosis. Examination of the urine showed a very marked test for both acetone and diacetic acid.

Five minims of pituitrin was given and sodium bicarbonate by the mouth and by the Murphy dip method in the rectum. This was at about noon and when I saw the child that evening she was sleeping naturally, had broken out in a perspiration and the rectal tube had been abandoned on account of the frequent fecal discharges. Next morning the child had a large stool and when I arrived she was sitting up in bed and nearly as bright as usual. The acetone and diacetic continued to be excreted in the urine for some days, but eventually disappeared. I have since regretted that I gave the pituitrin, but I am confident that it was the soda which caused the striking change in the child's condition.

Some months later the little girl became ill again with gastro-enteric symptoms, but the parents in the light of their previous experience gave soda immediately and the attack amounted to but little. The urine, however, again showed a marked test for acetone and diacetic acid which disappeared after a few days. Since then the child has been well. This case resembles the type described by Abt[3] of Chicago, and I believe is clearly one of acid intoxication.

The two following cases are examples of a less severe type:

Case 2. W. C., aged 6, was seen on February 9th in my office. The complaint was of vomiting and marked distaste for food which began the day before. He stated that he had been hit in the stomach while at play two days before and the mother feared that there had been some internal injury on account of the vomiting. Pulse and temperature were normal but there was a distinct dull expression and a slight odor of acetone on the breath. He was immediately put on milk of magnesia but he vomited the medicine several times that night. The following day he was put on bicarbonate of soda and I had no occasion to see him again.

This case showed acetone in the urine but no diacetic acid until later. The fact that acetone was found 24 hours after the onset of symptoms excludes the possibility that the acetonuria was due to starvation and marks it as a beginning acidosis.

Case 3. While calling on another patient, Mrs. W., spoke to me about her three-year-old baby who, for some unknown reason, had been vomiting since the day before. The mother also stated that the child had been unnaturally dull and drowsy. No other symptoms were discovered except a slight but distinct acetone odor on the breath. The urine was obtained immediately and showed large amount of acetone and diacetic acid. A prescription for sodium bicarbonate was given and I have never seen the child again. I later telephoned the mother and she stated that after a very few doses the whole condition cleared up and the child had been perfectly well since.

These last two cases are examples of a mild intoxication and apparently secondary to no other disorder. I think that such are easily overlooked and that it is always important to keep this condition in mind. Acute acidosis is almost always described as a disease peculiar to infancy and childhood. I consider, however, that while the disease undoubtedly occurs much more frequently in early years, that it may occur in adults as well. The following appears to be a case of mild acidosis:

Case 4. Mrs. S., was seen in her room at a hotel on February 24th, at ten p. m., she was bright and cheerful and felt that a doctor was rather unnecessary. Her only

[3]Abt, T. A. Journal A. M. A., November 15, 1913. Discussion, page 1767.

complaint was of pain in the left hypochondrium. Pulse and temperature were normal. There was slight distention of the abdomen and a little tenderness over the site of the pain. Physical examination was otherwise negative. It seemed to be simply a case of constipation with gas pains, and castor oil was advised and the case dismissed. The following evening I was again called. The pulse and temperature were again normal; she had a good result from the oil, the distention had disappeared but she still had the pain. The change in the woman's appearance was, however, very striking. The bright expression of the previous evening had given place to a stupid, dull appearance and she appeared as if she were under the influence of a narcotic. There was a slight acetone breath and the urine contained acetone but no diacetic acid. Sodium bicarbonate was given all night but owing to a druggist's mistake too little was given. In spite of the small dosage the following morning she was brighter. She had a headache but no pain in the abdomen. Soda was started in drachm doses every hour and by late afternoon she was up and around and although a little weak, was as bright as usual.

The last case I hesitate to report at all for it did not occur in my own practice, and I did not see it until convalescence was established. I am indebted to Dr. F. W. Wilcox for the following account:

Case 5. Miss D., a woman of about 25, was seized on Sunday with epigastric pain and vomiting. The following day there was marked distention of the stomach but none of the abdomen. There had been no bowel movement since Saturday and in spite of castor oil, calomel, salts and colonic enemas there had still been none on her entrance to the hospital on the fifth day. Her vomiting had cleared up on the third day but there was severe pain in the right hypochondrium and at the time of entrance to the hospital her condition was serious. The pulse was 90, temperature 101 and respiration 34. Her expression was bad, the abdomen markedly distended and except for absence of vomiting the case was typical of an intestinal obstruction. Large doses of castor oil and high enemas, including one of three ounces of soda, produced some movements of the bowels. On the following day the urine was examined and found to contain a very marked amount of acetone and diacetic acid. She was given soda by the mouth, and made a perfect and rapid recovery.

This case I believe to have been an ileus from acute acid intoxication, but I report it only as a possible and not a clearly proven one. In investigating this subject one is apt to become too enthusiastic and find acidosis in every case which shows a trace of acetone in the urine which, of course, is a mistake. In a case like this, when the acetone bodies are found late in the disease it must always be borne in mind that they may be the result of starvation, just as is probably the case in pernicious vomiting of pregnancy. However, as I have stated, acetone is found in adults suffering from the "grippe," and in diabetes and after anesthesia and I do not think that age offers a perfect immunity to what I consider the primary form.

The question arises after finding acetone bodies in the urine whether the condition is one of acid intoxication or not. To do this scientifically the ammonia output of the urine must be measured, the blood examined and perhaps most important of all the CO_2 tension in the expired air estimated as pointed out by Paul Roth[4]. Morse[1] gives the most characteristic symptoms as a peculiar dyspnœa or hypernœa without cyanosis and a diminished output of urine. He often finds vomiting, there may be diarrhœa or constipation and sometimes a white line about the mouth. Aside from the presence of acetone odor on the breath and the acetone bodies in the urine, I have found the most suggestive symptoms to be vomiting and drowsiness.

To summarize: Acetone commonly and

[4]Paul Roth. Journal A. M. A., July 31, 1915.

diacetic acid more rarely are found in the urine in all ages during the "grippe," and in childhood in the course of various infections. This may occur without symptoms and if so, should not be classed as acid intoxication. There is a form which I class as primary, in as much as no other disease is present which occurs not uncommonly in children and probably in adults as well. This may be a mild type with vomiting and dullness the predominant symptoms or of a severe type with pronounced ileus.

ACIDOSIS IN CHILDREN.*

J. M. Grantham, M. D.,
Tampa, Fla.

A few years ago practitioners all over the country began to have fatalities among their young patients from a disease or condition in which a symptom-complex was presented that at once attracted attention of physicians everywhere, and not described in textbooks on medicine or in current medical literature. After light anesthesia for so simple a procedure as a tenotomy or paracentesis, a child would promptly develop a group of symptoms inconsistent with the condition for which it came, or the work required, and die within a few days. A healthy breast-fed baby, at about the weaning time, presenting symptoms of a digestive disturbance, would rapidly become prostrated and pass away in coma in 48 to 60 hours. A bowel infection case would develop the same set of symptoms, and early end in death.

Laboratory workers in medical centers, and elsewhere, were not long in telling us that some of the acids normally found in the body are increased to a greater or less degree, and whose manufacture by the economy exceeds the power of the body to neutralize and eliminate them. The term acidosis or acid intoxication is applied, now well known to even the laity in many communities, and dreaded wherever known.

The disease finds its chief interest in its etiology, and this leads us at once into a field of body chemistry in which a large amount of work has been done in the laboratory, and increasing interest has lead the ablest pediatricians of the country to give freely of their time and toil.

It is known that under normal conditions the blood contains large amounts of weak acids and their salts, and also that the healthy body performing its functions is making acids all of the time, as the result of oxidation. Measures and means are provided for the neutralization and elimination of these acids, and it is when neutralization and elimination fail to keep pace with production, or an excess of bases is removed, that a disturbance of the acid-alkali equilibrium of the body takes place.

Peabody says "Life itself depends on the maintenance of the reaction of the blood and tissues within very small normal limits, and that the composition of the blood certainly depends in large part on the activities of the fixed cells of the tissues." Again this same writer, quoting Henderson, tells us that the normal reaction of the blood, like the normal body temperature, is an important physiological constant.

The maintenance of the normal reaction of the blood is due to the blood itself; that is, its chemical composition and its power to eliminate acids. "It contains large amounts of weak acids and their salts, carbon dioxide and sodium bicarbonate, acid and alkali salts and sodium and potassium, and a high percentage of proteids which have both acid and basic characteristics" (Peabody). To a solution of such composition it is possible to add large quantities of acids without changing its reaction, whether introduced from without or produced within the body. The power of the body to eliminate acids is manifest by the excretion of non-volatile acids by the kidneys and a volatile acid—carbon dioxide—by the lungs. These acids are not poison, and do no harm unless produced in large

---

*Read by title before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

quantities, so large that the mechanism by which the blood maintains its reaction is broken, and an excess of bases is removed.

While this is taking place, the energies of the body are aroused to increase activity and vigor, and as Howland says, "The defenses break down and the reaction of the blood changes."

Clinically this state of affairs may be said to exist if the urine contains the acetone bodies, the pulmonary ventilation increased, and the alkali tolerance increased. Laboratory findings would show an increased amount of ammonia in the urine, the percentage of carbon dioxide in the blood increased, the plasma deficient in sodium bicarbonate, and the combining power of the hemoglobin with oxygen lessened.

Acidosis may be seen in nearly all of the acute infections of childhood, after chloroform and ether narcosis, excessive fat feedings, insufficient carbohydrate intake, starvation as a whole, cyclic vomiting, nephritis and diabetes. It may also occur, I believe, independent of any other infection, a distinct clinical entity.

The symptoms of the disease are usually a digestive disturbance, evidenced by nausea and vomiting, or diarrhœa or both, the odor of acetone to the breath—a sweet, fruity odor—present at the beginning, elevation of temperature much or little, a rapid pulse rate out of proportion to the temperature, flushed cheeks, and lips cherry red. The child is restless, thirsty and drowsy. The daily output of urine is less than normal, and does not contain diacetic acid at once, but it appears in a few hours and may be found at your next visit. When the nausea ceases after 24 or 36 hours, the stupor deepens, and this distinguishes acidosis from cyclic vomiting. In a progressive case a modified Cheyne-Stokes breathing develops, intestinal paresis take place, and coma supervenes. When these latter symptoms are present, the case is hopeless. A severe and quickly fatal form has been met with, in which to the above symptoms is added the loss of a large quantity of serum into the bowels, and lost from the body by that route, sometimes hourly and even more often free from flatus and feces. The body is drained of its fluid, hyperpyrexia develops, followed by convulsive seizures and death on the second day.

The treatment consists in clearing the gastro-intestinal tract thoroughly, the administration of alkali in the form of sodium bicarbonate in sufficient quantity to render the urine alkaline, and the giving of carbohydrate foods to spare the body fat. We usually give a child a glass of water to which a little sodium bicarbonate has been added. This may be vomited promptly. A colonic irrigation is given, and a dose of castor oil by mouth. If the oil is not retained, 1-10 grain of calomel every hour is given until effective. We prepare a saturated solution of sodium bicarbonate, each ounce of which represents 30 grains of sodium, and give a dose every hour day and night. Commence with a tablespoonful at a dose in a little ice water, and increase all you can as the patient tolerates it. The idea is to give all you can. One of my patients, a girl of six years, who has had repeated attacks of the disease, has taken 60 grains of sodium bicarbonate every two hours until an ounce was given.

The alkali must be kept up until the urine is alkaline, and then the case may be considered relieved.

A suitable food would be a 7 per cent milk sugar solution during the first 24 hours, after which a 1 per cent barley water, to which the milk sugar is added, is given.

If on account of nausea, or other cause, food can not be given by mouth, a 5 per cent solution of glucose is given per rectum.

Every child requiring anesthesia should receive enough soda to make the urine alkaline before taking the anesthetic. Every child with a digestive disturbance or diarrhœa in whose urine the acetone bodies are found, should receive the same treatment. Any ill child from whatever cause, in whom

this symptom is present, should not have this important part of treatment neglected.

My feeling at the present time is in favor of giving the sodium bicarbonate solution intravenously to the cases with persistent nausea, or in whom there is much loss of fluid, giving a dram to two drams in a 4 per cent solution, and repeating the same when required.

PYELETIS OF INFANCY.*

With special reference to its occurrence during the course of the infectious diarrheas.

J. W. West, M. D.,
Live Oak, Fla.

It is not my purpose to follow a textbook's description of this disease but only to bring out certain features which I believe will be of some practical value to some of those who may hear me. Some textbooks contain much I do not give. I give some things not in textbooks.

First, I wish to say that the disease complicates the infantile diarrheas far more commonly than is indicated by the textbook writers and far more commonly than is generally recognized among the general practitioners. This belief has ample confirmation in my own consultation experience.

In those cases of infectious diarrhea where the high fever continues and the general appearance of the child shows no improvement after there has been decided improvement in the diarrheal condition, our attention should always be turned to the kidneys; also in these prolonged cases the chills usually occurring at irregular intervals but sometimes at regular intervals, causing the physician to think that malaria has crept in as a complication. After beginning the use of quinine he soon awakes to the fact that the wrong drug is being used. Typhoid is another disease which is commonly suspected, but this can quickly be cleared by the Widal blood test as well as by the lack of certain typical symptoms. Otitis media should always be eliminated as a cause of the continued and irregular fever by careful inspection of the ears. This would eliminate all the more common diseases which are likely to complicate the diarrheas.

The one other disease that may be responsible for the continuing fever, and this is the one I especially wish to call your attention to, is most likely to be found by a microscopical examination of the urine. Given a specimen of turbid urine you would suspect trouble from the kidneys. A drop of this placed under the low power of the microscope will usually show large white pus corpuscles and numerous small round red corpuscles; chemical examination of the urine usually shows albumen. If you have not the microscope at hand the turbid specimen containing albumen taken in connection with the other symptoms already enumerated may usually be considered sufficient for a diagnosis; of course the microscopic evidence is conclusive and is the one which should be employed when practical.

I find one reason why the urine is not more often examined to be the difficulty in obtaining a specimen. A few years ago I heard this question raised by a lady physician before the section on pediatrics at the meeting of the A. M. A., at Atlantic City, by asking if a satisfactory specimen of urine could be obtained by squeezing the diaper. My own answer is, I hardly think so, as feces or starch or other foreign substances are likely to so fill the urine as to obscure the test. I know, however, there are several means by which a satisfactory specimen may be obtained. A test tube or bottle with a suitable sized neck may be used in the case of a male, being held in place by adhesive plaster; in case of the female the finger of a pair of worn-out rubber gloves together with the test tube, and adhesive plaster can be so fixed as to make it easy to get a specimen while the baby sleeps. Of course the

---

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

soft rubber catheter may be used in either case, insuring a perfectly clean specimen. With a little preparation in advance these means are easily executed when you reach the bedside of your patient.

In these infectious diarrheas the infection is an ascending one coming from the infected feces and ascending the urinary tract beginning at the meatus passing upward through the urethra to the bladder, thence upward again from the bladder through the ureters till it reaches the pelvis of the kidneys.

This disease has been found to be about five times as frequent in the female as in the male. The difference in the anatomy of the two fully explains this ratio: first, the location of the female meatus and the larger opening makes it much easier for infection to enter than in the male. The long tortuous course of the male urethra as compared with the short straight course of the female is a further explanation.

The offending bacteria are usually found to be the colon bacilli, the same as found normally in the bowels, thus strongly indicating the source of the infection and its method of reaching the kidneys, viz.: from the anus to the urethra, urethra to bladder, bladder to ureters and ureters to the pelvis of the kidneys.

Treatment: This is simple and effective; only two drugs are needed—potassium citrate and urotropin. They are best given alternately for periods of three days each. Give the potassium citrate for a period of three days during which time the urine becomes alkaline; withdraw the potassium citrate for a period of three days and the urine promptly returns to its normal condition of acidity. During this period of withdrawal the urotropin should be administered for its antiseptic effect. Bacteria can not accommodate themselves very readily to these rapid changes from acid to alkali and alkali to acid; hence, they are disposed of much quicker by this method. At best it is a condition that yields but slowly yet surely to treatment, so it is well to bear this in mind when talking to the family. Allow yourself at least six weeks in which to effect a cure; if your patient should get well in a shorter time, no one will blame you.

THE IMPORTANCE OF MUSCLE REPAIR IN PERINEORRHAPHY.*

A. C. Ives, M. D.,
Tampa, Fla.

The apparent simplicity of perineorrhaphy leads many men to do this operation without sufficient consideration of the fundamental factors essential to good repair work. This becomes evident to anyone who has opportunity to examine patients who have had their perineum repaired; often it will be found that the patient is not much better off than before operation owing to the fact that one important step in technique has been neglected.

It is the object of this paper to call your attention in a brief way to the importance of muscle coaptation in the repair of lacerated perineum.

In order to better understand what is meant by muscle coaptation in this work, permit me to review briefly what takes place when a perineum is torn. Towards the end of the second stage of labor, the presenting part dilates the vagina and its neighboring tissues to such an extent that these tissues are sometimes ruptured and a function is lost. One of these tissues is the levator ani muscle, also several adjacent muscles that are so arranged as to form the main support of the pelvic floor.

During a rupture, sometimes the levator ani is simply split in the median line and its fibres merely separated and not torn, at least to any great extent; in other instances the tear is in the direction of one or both vaginal sulci.

In the first instance, in which the levator is simply split, its function as a support is

---

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia May 10-12, 1916.

not materially impaired; in the second event an entirely different condition results. The muscle fibres are torn and their ends retracted; thereby the pelvic floor is robbed of its natural support.

In a large number of cases one must study the parts well to appreciate the damage done by the oncoming head.

Ordinarily at the time when the perineum is being repaired, the obstetrician is intent upon covering over the raw surfaces, coapting the parts, as best he may, using his efforts to unite any visibly torn parts, overlooking the vital part that the main supports of the pelvic floor is dependent upon good muscle coaptation.

This so-called pelvic sling is easily palpable just within the introitus vaginæ. One can hook the finger in each sulcus and determine if the support is gone. One does not feel the resistance on the side in which the muscles have been ruptured and realizes there is a difference between the two sides.

This musculo-fibrous sling is the important tissue that must be repaired, and no repair of a lacerated perineum will get results that does not reckon with its functions.

The history of perineum repair work dates back into the pioneer days of gynecology and it is useless to go into details; suffice it to say, nothing substantial was done until Emmet devised his "batwing denudation" operation.

This was a step in the right direction because an effort was made to dissect out the "levator ani sling" and coapt its severed fibres. This operation was devised for old lacerations. In most instances the operation resulted in simply narrowing the vagina, and in the course of time prolapse of the organs above was again evident.

Further study developed the fact that structures under the mucous membrane were the vital ones that had to be repaired, and ultimately the "flap-splitting" operations were devised.

Among the best is one used and described by Crossen of St. Louis. Double tenacula are applied at the junction of the mucous membrane and skin just below the opening of the vulvo-vaginal glands on each side and crossed to determine the size of the opening in the vagina when operation is finished. After this adjustment the parts are put on stretch and a small strip of mucous membrane denuded just within the vagina. This membrane is separated from the underlying scar tissue with a knife as a beginning.

The dissection is continued with a gauze-wrapped finger up into the sulcus until the musculo-fibrous sling is reached. This is recognized by its resistance, also by its muscular nature. If in doubt, hook the finger of the other hand in vagina and put tension on the sling, then one can observe the pull. Repeat the above procedure on the opposite sulcus. After the levator on each side has been exposed, secure same with two double tenacular forceps, draw them in opposition and suture with two or three figure eight sutures of 40-day No. 1 catgut. In fact this suture material is used throughout the entire operation.

After the sling is coaptated the adjoining tissues are brought together from side to side. The excess of mucous membrane flap above is trimmed off and nicely adjusted along with the skin, leaving a straight suture line coming out of the vagina on down the perineum.

Do not draw any sutures too tight as the swelling and edema is quite pronounced after these operations and the patient will suffer considerable pain. These operations have been developed as a secondary procedure, yet with some modifications can be done at the obstetrical bedside with a good chance for satisfactory results.

Obstetricians should determine beyond all doubt if the pelvic sling has been ruptured. If repair is necessary it should be done by some method embodying a coaptation of the levator ani, at this time of primary repair. The levator ani muscles are quite easily found, they have not shrunken, nor are they much retracted.

In tying, a little more allowance must be made for the customary edema. In doing this immediate repair as above outlined, I realize that more assistance must be available than is generally needed in doing immediate repairs in our haphazard way. The operative preparation and work will take more of our time and add somewhat to the obstetrical expense, but the patient will be amply compensated by the quicker and better recovery because of the improved circulation and support, and we ourselves in the satisfaction of a duty well done to our most deserving patients, "the lying-in-women."

DIAGNOSIS AND TREATMENT OF CHRONIC GONORRHŒA IN THE FEMALE.*

George A. Lassman,
Tampa, Fla.

In considering the diagnosis of chronic gonorrhœa in women, I will divide the patients suffering from this infection into two distinct groups. In group one we have that class of patients who are strictly honest with the physician when examined and thus aid him in his diagnosis. In group two we have that class of patients who for reasons best known to themselves try to throw a stumbling block in the path of diagnosis, in order that they may be considered free from infection. The patients of this latter group nearly always use the same subterfuge methods when examined for a gonorrhœa, namely, careful washing, douching and urinating just prior to examination, in this manner obscuring many important symptoms.

Knowing the female genitalia is constantly bathed in its secretion we must always take into consideration its anatomy, the canal-like opening extending from the vaginal orifice to the tubes and, especially, the close proximity of the urethra and the rectum to the vaginal orifice. Also we must not forget the Bartholonian glands and ducts, and the ease with which all these parts can become infected.

Of special importance is a knowledge of the structure of the mucous membrane lining all of these organs. It is this same mucous membrane upon which the gonococcus thrives so easily, and which contains numerous tubular glands, all lined with the same epithelium which give a ready field for the gonococcus to hide and grow and multiply. It is due to these glands that the bacteria can burrow into and cause this chronic condition.

We have been taught much about the so-called normal vaginal flora, the bacteria present in this flora, being indigenous to these parts. When we consider the numerous different kinds of microorganisms, that can be plated out in petri dish culture from the vagina, of the perfectly healthy woman which, under normal conditions, never give rise to any pathological changes, we can then readily appreciate this teaching. On the other hand we must not forget that many of the bacteria belonging to the so-called normal vaginal flora, and not giving rise to any pathological condition under normal circumstances, belong to that class of bacteria known as the facultative group, that is, they can become pathogenically virulent under favorable conditions and surroundings. It is in infections from without, as in a gonorrhœa, that these same facultative bacteria become in themselves an additional source of trouble, by becoming pathogenic. I will state right here that the gonococcus is not an organism belonging to any other but a pathogenic variety, and that there is no such condition as a latent gonorrhœa. This is my firm belief, for where the patient was not cured of a gonorrheal infection the gonococcus could always be demonstrated, where on the other hand I could not demonstrate the presence of the gonococcus in patients who were thoroughly cured, in spite of repeated and careful examinations. Also that the gonococcus is not an organism that

---

*Read by title before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

will remain dormant for any period of time, but rather one which will make its presence known in more ways than one.

Therefore let us discard the thought of relapses, or autoinfections of a gonorrhœa in the female, knowing that there can exist no such condition, when we take into consideration the bacterial pathogenicity of this microorganism. For once the cause of gonorrhœa be thoroughly removed, there can be no pathogenic condition of this disease present, and no relapses or old exacerbations or auto-infections occur unless a new infection takes place. With these facts in mind, my technique is as follows:

I try to get as concise a history as possible, laying special stress on the following: I try to ascertain the age of the individual at the first menses, and whether or not the first menstrual period was accompanied by any dysmenorrhœa. If so, just what form of dymenorrhœa the patient experienced at that time, also if there were present any menstrual disorders during any subsequent menstrual periods. If any irregularity of the menses occurred, I try to ascertain what form of irregularity it is. I next try to discover the length of the menstrual duration, as to its quality, quantity of the flow, whether profuse, scant, or medium. It is advisable to ascertain the date of the last menses to make sure if there be any pregnancy or not, also as to the number of pregnancies, miscarriages and abortions.

My next inquiry is if at any time there had occurred any inflammation about the genitalia; if so, how long back, its character and duration. Also if the patient suffers or has ever suffered from a vaginal discharge; if so, its characteristics as to period, quantity, color, odor, and if it caused staining of the linen. Also if there be present any burning or smarting during micturition, and its frequency.

Taking into consideration the important role the genito-urinary organs play to the rest of the body, I make careful inquiry into the general health of the patient, a step often overlooked in the press of a busy practice. I ascertain if the patient suffers or has suffered any pain; if so, its location, whether localized, radiating, constant, sharp or dull, and especially if the pain has any relation to the menses or not.

The physical examination is divided into inspection of the parts, and into palpation. By inspection we can ascertain any inflammatory appearance, and any discharge, its character, and quantity, also if there be any involvment of the cervix. We can also note any perineal lacerations or erosions, or glandular involvement of the labia. By the bimanual examination we can ascertain the contour, consistency and position of the uterus, the condition of the tubes and ovaries, and if there be any pelvic abscess or any other involvement of the surrounding parts. The microscopic examination consists of making smears from the cervix, vaginal fornices, from the moist surface of the mucous surface of the labia, and by stripping the urethra, making a smear from any secretion that we find there. I next have the patient urinate in several glasses to ascertain if there be any bladder involvement. For the examination of the smears, I refer you to any textbook on bacteriology. This I will say: It is absolutely impossible to treat this disease without the aid of the microscope.

In those cases where it is impossible to make a definite diagnosis at the first examination, I insert a plain glycerine tampon into the vagina, leaving it in situ from twelve to eighteen hours, instructing the patient to remove it at a definite hour, and to hold her urine for several hours just prior to examination, not to wash or douch, but to let everything remain just as it is until examined. In this manner, by the hydroscopic action of the glycerine, there is quite a discharge produced, giving the examiner a better field to work on. I very seldom have to repeat my examination after the second visit to clinch my diagnosis. In all my cases where there was a gonorrhœa present, of the

vagina or any of its adnexa, I invariably found the urethra and bladder also infected. In only three cases out of two hundred and twenty that came under my observation did I find the rectum involved, and these readily responded to treatment.

In considering our treatment we come to the most important factor in handling this class of cases. On our treatment alone depends whether a cure can be accomplished or not. When we consider how easily the general health of the patient can be affected, due to the absorption of the toxins generated by the infection, these same toxins having a very deleterious influence, and in addition, when we consider the tremendous nervousness due to constant worry, we can readily see what a marked influence all this has on the general health of the patient. It is for these reasons that in these cases I always try to build the patient up, avoiding all drugs that would have a deleterious effect on the stomach.

I am convinced that gonorrhœa is a local infection only, and as I have previously stated that this infection effects the general health only in a reflex manner.

Therefore such being the case, I consider the prescribing of cubeb, oil of sandal, methylene blue, copaiba, etc., erroneous, as these drugs tend to cause gastric disturbances, interfering with digestion, and in this manner lowering the resistance to disease and infection. If prescribing must be done, rather give some drug that will build up the patient and increase her resistance to disease.

I have, from my observation, found a little or no anti-gonorrhœal properties these drugs are supposed to have, whilst I have had excellent results from local treatment only.

Realizing that any drug that will coagulate tissue will form a protective barrier behind which the gonococcus will thrive, and also that it is necessary for a antiseptic to come into actual contact with a microbe, long enough before it can have any good effect, I have from experience limited myself to such antiseptic solutions as would overcome this, and produce results.

For the urethra and bladder I use a solution of permanganate of potash, ranging in strength from 1-10000 to 1-800 as the patient can stand it. I use this solution as an irrigation, using an acorn-tip nozzle tightly pressed to the mouth of the urethra when filling the bladder. It is not necessary to use a catheter, as in irrigating the bladder you at the same time treat the urethra. I keep the irrigation treatment up as long as there are any gonorrhœal manifestations of the parts present.

In the vagina I use a 10 per cent to a 20 per cent protargol solution only, as I find this drug best of any. I have tried different strengths of argyrol, but do not find it better than protargol, and as it is a rather dirty process, I have discarded its use wherever I can. I also use the glycerine and the boro-glycerine as well as the protargol-glycerine tampons in the vagina, leaving the tampon in situ for eight to ten hours and changing for fresh tampons as often as possible. In this manner I get almost constant medication. The cervix I cauterize with pure carbolic acid, followed by alcohol in order to prevent the spread of infection.

Where the uterus is infected I make local applications to it. I have tried many methods of intrauterine medication in gonorrhœa, such as medicated uterine bougies, direct medicinal application, etc. The best and most efficatious method of intrauterine medication is with the use of the regular gonorrhœal syringe, having a soft rubber tip nozzle acorn in shape. Using a solution of two per cent protargol, I grasp the lip of the cervix with a hook or tenaculum to steady it, then pressing the tip of the syringe hard against the cervical opening, very much as injecting the urethra, I fill the uterine cavity with as much fluid as it will hold, then insert a tampon into the vagina. My idea is that we not only make local application to the uterine cavity, but at the same time force some of the application fluid

into the tubular openings of the mucous membrane. In this manner we make the surrounding field very unproductive to the germ.

A very important factor is douching, and douching properly. Of all the different antiseptics for uterine use I like the permanganate solution best, and always advocate its use wherever I can. The strength of solution I use is from one to three thousand to one in three or five hundred. Keeping in mind the necessity of the solution reaching the gonococcus, and keeping in contact with it long enough to destroy it, I instruct my patients to contract the labia around the douch nozzle by using pressure with the fingers, thus causing the fluid to baloon the vagina out, allowing at the same time the antiseptic solution to get in its work.

The treatment outlined will suffice in the average case of gonorrhœa. If there be any complications present the physician then must use his judgment, as there are no two cases exactly alike. We may form an average, but on careful study of the cases we can nearly always detect some differences.

At various times during the treatment I make careful microscopic examination to determine the progress of the disease. When I am unable to find any gonococci after repeated examinations, especially when those examinations are made directly before and after each menses, then I thoroughly curette the uterus and the cervix. After this I keep the patient under observation for a period of at least six months, making repeated careful examinations during that time and also try to make every possible test to ascertain if the patient be cured.

I never consider taking a case of gonorrhœa under treatment for a less period than six months and often longer, as it is much more difficult to cure a gonorrhœa in the female than in the male. As to the sterility of the patients having had a gonorrhœa, and especially where they have had a gonorrhœal pyosalpinx, I have seen in two per cent of my cases, who have had these complications, after having been cured, give birth to normal healthy children.

In summing up this paper I will state that gonorrhœa in women is more common than we think; that it is a thoroughly curable disease, leaving practically no bad after effects, if properly treated; that it can not be treated without the aid of the microscope, and women infected with this disease should be treated over a long period of time, due to their complicated anatomical and histological structure, and especially no patient to be considered cured until after having undergone a satisfactory probation period.

THE BACTERIOLOGY AND THE CHANNELS OF INVASION IN ACUTE OTITIS MEDIA.*

Frederick J. Walter, M. D.,
Daytona, Fla.

The excuse for bringing this common condition before the society is because of its frequency and largely to present simple suggestions in prophylaxis. The writer has been impressed in his work by the complication of acute otitis media in tonsillitis with enlarged and infected tonsils and adenoids. It must be that most of us have observed this. Where does this infection come from and how can it be avoided?

Putting aside the lowering of the resistance which is conducive to germ development, let us consider how we can avoid houseing these bacteria in the glands of the throat and nasopharynx.

Does it not resolve itself into a sanitary condition? Should we not insist upon more attention to the teeth and mouths of such subjects? From observation the writer concludes that inflammations of the throat and ears are less common in persons who are careful about such things. In susceptible subjects, *the teeth should be thoroughly cleansed after each meal, the gums brushed*

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia May 10-12, 1916.

and the throat washed and gargled. Alkaline antiseptic mouth washes are most certainly helpful and pure running water is not to be ignored. The mechanical act of gargling greatly assists in opening the mouths of the eustachian tubes and thereby promotes drainage from them. Gargling constricts the pillars of the pharynx and acts mechanically by expressing infected material from the crypts of the tonsils. After infection has become established and we have chronic inflammation with hypertrophy we must resort to surgery. By simple hygienic measures much that predisposes to otitis media can be avoided.

The exciting cause of acute otitis media is the presence of pathogenic microorganisms in the middle ear. The microorganisms most frequently are: Staphlococcus pyogenes albus and aureus, the diplococcus of pneumonia, streptococcus pyogenes and the bacillus pyocyaneus. Each may be found alone or two varieties mixed, making it impossible to state which the primary causative agent is. Acute otitis media is a frequent complication of the acute exanthemata of children.

In measles the ears are often extensively involved but with less destruction than in diphtheria and scarlet fever. In inflammations of the middle ear we find principally the streptococcus. The diplococcus of pneumonia is frequently found in the secretions in pure cultures, even where there is no involvement of the lungs.

The avenues of infection are through the eustachian tubes, through the external meatus and a perforated tympanic membrane, through the dural processes in the petro-squamous fissure, and hematogenous; which is through both the lymph and blood vessels. All of the latter named avenues are secondary to the eustachian tubes in frequency and importance. Nature has provided a great barrier against invasion from the nose and pharynx in the ciliated epithelium of the tubes, which motion is from the tympanic cavity towards the pharynx. It is when this epithelium is rendered defective that the exciting cause may enter. The main defense against invasion is a healthy organism, the absence of obstructions and of pathogenic bacteria. Infections of the faucial and pharyngeal tonsils have more to contribute in acute otitis media than all the other causes combined. These glands when infected are not necessarily enlarged glands. Relief can be expected and promised from treatment directed to the nose and pharynx.

Following the sequence of infection we may conclude that it comes from the air or food, laden with dust or germs taken in through the nose and mouth. These germs are incubated and housed in the mouth, nose and throat of individuals who do not take the trouble to remove them. Subjects who have been in a foul, noxious, dirty and dusty atmosphere will do well to irrigate their nasal cavities and thereby avoid infections of the accessory cavities. Persons who keep their mouths and teeth clean are less liable to infection of the ears.

PROPAGANDA FOR REFORM.

Orthoform — New.—Treasury decision 2194 contemplates registration of orthoform—new under the Harrison Narcotic Law. (*Jour. A. M. A.*, Dec. 25, 1915, p. 2257.)

So-Called Secretin Preparations. — At the request of the Council on Pharmacy and Chemistry Professor A. J. Carlson of the University of Chicago has studied the action of secretin when administered by mouth or directly into the intestine and also investigated the secretin content of certain alleged secretin preparations. Carlson and his co-workers, like all previous investigators, found that secretin, when given by mouth or introduced even in enormous doses directly into the intestine, is entirely inactive. Further, they were unable to demonstrate the presence of secretin in samples of Secretogen and another supposed secretin preparation (Duodenin) bought on the open

market, except that one bottle was found which contained a little secretin. Carlson and his co-workers conclude that there is as yet no reliable evidence that lack of secretin is a primary or important factor in any disease and that, should this be established, secretin therapy, to be effective, must be intravenous. The Council indorsed the work of Professor Carlson. (*Jour. A. M. A.*, Jan. 15, 1916, pp. 178 and 208.)

Strontium Bromide. — The official bromide contains about two-thirds as much bromide as is contained in potassium bromide and about three-fifths as much as that contained in sodium bromide. Hence it may be expected that the bromide action from strontium bromide will be much less than that of either potassium bromide or sodium bromide. (*Jour. A. M. A.*, Jan. 29, 1916, p. 376.)

Oxybon Declared Fraudulent. — On January 15, 1916, a fraud order was issued by the postmaster-general against the Oxybon Company, Chicago. The Oxybon was one of the gas-pipe frauds, which included the Oxydonor, the Oxypathor, and the Oxygenor. (*Jour. A. M. A.*, Feb. 12, 1916, p. 526.)

The Therapeutic Value of the Hypophosphites.—At the request of the Council on Pharmacy and Chemistry, Dr. W. M. Marriott, Johns Hopkins University, has examined the evidence for and against the therapeutic value of the hypophosphites. Experiments were carried out to determine the "food" value of hypophosphites. The hypophosphites were introduced into medicine by Churchill in 1858 on the basis of an incorrect theory and utterly insufficient and inconclusive clinical evidence; their use has been continued without justification by any trustworthy evidence for their efficiency. By actual trial on human subjects Marriott shows that at least 85 per cent of the ingested hypophosphites are excreted unchanged. Further, he holds that there is no proof that the remaining 15 per cent is available to the organism. It is doubtful if there are any conditions in which the body suffers from lack of phosphorus. Marriott concludes that there is no reliable evidence that hypophosphites exert a physiologic effect; it has not been demonstrated that they influence any pathologic process; they are not "foods." If they are of any use, that use has never been discovered. (*Jour. A. M. A.*, Feb. 12, 1916, p. 486.)

Fermented Milk.—While there is no conclusive evidence that Bacillus bulgaricus is able to establish itself in the intestine in such a way that other bacteria are driven out, it is undoubtedly true that in many cases marked improvement has resulted from the ingestion of milk cultures made from it. It is by no means certain, however, that the results which have been obtained by the use of milk cultures have been attributable to any peculiar virtue in the organism itself. The beneficial effects of a sour-milk diet is attributable, perhaps, not so much to the bacteria contained in the milk as to the milk itself, which provides material for an acid fermentation in the intestine. Fermented milk is so well tolerated in many cases that their use should in general be encouraged from the standpoint of nutrient values, quite apart from the problematical "autointoxication" propaganda. (*Jour. A. M. A.*, Feb. 19, 1916, p. 574.)

Caldwell's Syrup Pepsin.—Some of the claims made for this "patent medicine" are "Positive Relief for Constipation," "Dispels Colds, Headache, Fevers and all ills caused from Bad Digestion, Foul Stomach, Torpid Liver and Sluggish Bowels." While the name and the claims suggest the presence of pepsin, L. F. Kebler, the government chemist, reported that this nostrum is an aqueous alcoholic solution containing laxatives flavored with oil of peppermint and devoid of any appreciable amounts of pepsin. Regarding the laxative constituents the A. M. A. Chemical Laboratory reports that a senna preparation is the essential laxative constituent. (*Jour. A. M. A.*, July 31, 1915, p. 447.)

Strontium Salicylate not Superior to Sodium Salicylate.—In a series of carefully controlled trials, carried out in the Lakeside Hospital, Cleveland, M. A. Blankenhorn shows that strontium salicylate possesses no advantage over sodium salicylate as regards either therapeutic efficiency or freedom from undesirable by-effects. The salicyl content of strontium salicylate is about four-fifths that of sodium salicylate. This smaller salicylate content may have contributed to the notion that strontium salicylate is less likely to cause salicylism. This notion may have also arisen from the fact that the more expensive preparations are likely to be given in smaller doses than the cheaper sodium salicylate. That the strontium salt of salicylic acid has no advantages over the sodium salt, has also been pointed out in the report of the Council on Pharmacy and Chemistry on Rheumalgine. (*Jour. A. M. A.*, Jan. 29, 1916, p. 331 and 362.)

Hypochlorites in Infected Wounds.—Dakin points out that he claims no credit for the "discovery" of the "new antiseptic." He explains that the "new antiseptic" was discovered by Berthollet in 1788. The solution used by Dakin and others is essentially the well-known Labarraque's solution or solution of chlorinated soda. The claims as to the efficiency of the various modifications which are being used in France and England are decidedly contradictory. The one conclusion which all results with the various hypochlorite solutions appear to justify is that hypochlorites, whether applied in an acid solution, in an alkaline solution or in a neutral solution, are of genuine value in the treatment of infected wounds. (*Jour. A. M. A.*, Feb. 5, 1916, p. 430.)

The Effect of Opium Alkaloids on Respiration.—D. I. Macht has reinvestigated the effect of opium alkaloids on respiration. He divides the alkaloids of opium in two classes: In the one class is morphine, the prominent sedative alkaloid, which may not interfere with efficient respiration when the dose of the drug is small. In contrast with this are narcotin, papaverin, narcein, thebain and cryptopin, all of which are stimulants and in large doses are excitants of the respiratory center. Codein belongs to the morphin class, though in large doses it may also excite the respiratory center. The action of mixtures of opium alkaloids is a summation of their individual effects. It thus appears that if the object sought is a reduction of the labored activity of the respiratory muscles in a given case, the drug opium itself or mixtures of its alkaloids are to be preferred to morphine alone. If, on the other hand it is desired to diminish the excitability of the cough reflex mechanism, it seems that a simple substance, as morphine or codeine, is to be preferred. (*Jour. A. M. A.*, Feb. 12, 1916, p. 514.)

Diarsenol. — Diarsenol, Synthetic Drug Company, Toronto, Canada, is said to be chemically identical with salvarsan. It has not been examined in the A. M. A. Chemical Laboratory nor do any reports of trials appear to have been published, which demonstrate its value or safety. As salvarsan is covered by United States patent the American agents for salvarsan will probably object to the sale in the United States of a substitute. (*Jour. A. M. A.*, Feb. 19, 1916, p. 590.)

Proprietary Digitalis Preparations.—The Council on Pharmacy and Chemistry reports that it is becoming increasingly apparent that the tincture of digitalis produces the full therapeutic effects of digitalis, and that when it is properly made it is as stable as any liquid preparation of digitalis now available; and that the tincture has the systemic side actions of digitalis, including the emetic, in no greater degree than the various proprietary preparations of this drug. Strophanthin and crystallized ouabain are now available in sterile solutions in ampules and afford a convenient means of promptly securing the cardiac action by intramuscular or intravenous injection. (*Jour. A. M. A.*, Dec. 4, 1915, p. 2024.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.

Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.

Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.

GRAHAM E. HENSON, M. D.....*Jacksonville*

ASSOCIATE EDITORS.

THOMAS TRUELSEN, M. D.....*Tampa*
J. K. SIMPSON, M. D.....*Jacksonville*

COLLABORATORS.

RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa.....*Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville.....*Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville.... *Eye, Ear, Nose and Throat*
J. L. KIRBY-SMITH, M. D., Jacksonville...*Dermatology*
HENRY HANSON, M. D., Jacksonville..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.

E. W. WARREN, *M. D.*,
President ..... *Palatka*
JOHN A. SIMMONS, M. D.,
First Vice-President .....*Arcadia*
E. VAN HOOD, M. D.,
Second Vice-President .....*Ocala*
JOHN LONG, M. D.,
Third Vice-President .....*Lake City*
GRAHAM E. HENSON, M. D.,
Secretary-Treasurer .....*Jacksonville*

EXECUTIVE COMMITTEE

R. H. MCGINNIS, M. D.....*Jacksonville*
JOHN MACDIARMID, M. D.....*DeLand*
R. N. GREENE, M. D.....*Chattahoochee*

COUNCILLORS.

First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920

Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917

Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917

Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville..1918

Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala..1919

Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa.....1919

Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna.....1918

Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920

Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918

Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia.....1920

Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West.....1917

COMMITTEE ON SCIENTIFIC WORK.

F. C. MOOR, M. D.....Tallahassee
C. D. CHRIST, M. D.....Orlando
F. F. FERRIS, M. D.....Apalachicola

Next Meeting — Atlantic Beach — May, 1917

THE NATIONAL DEFENSE BILL AND THE ARMY MEDICAL SERVICE.

The national defense bill, signed by the president, June 3, fixes the proportion of medical officers at seven to each thousand of the enlisted strength of the army. This proportion, which existed at the outbreak of the Spanish War and was again restored in 1908, has been seriously reduced through gradual increase of the army, until the enlisted strength had grown 35 per cent without the addition of a single medical officer.

The new law provides for a definite ratio rather than for a fixed number of medical officers. This will automatically prevent any changes in the ratio in the future. The period of service required of medical officers before promotion to the grade of captain has been increased from three to five years. The medical reserve corps is abolished one year after the passage of the act. Officers of the reserve corps may be appointed to the medical section of the officers' reserve corps, in which body commissions may be issued in three grades—lieutenant, captain and major. Officers of the dental corps are open to promotion to the grades of captain after eight years' service, and to that of major after twenty-four years' service, subject to the same examination conditions as obtain in the medical corps. Veterinary surgeons of the army are formed into a separate corps attached to the medical department, and are given promotion to the grade of major. The hospital corps is hereafter to be known as the enlisted branch of the medical department, and several new grades, such as master hospital sergeant and hospital sergeant, are created. Through a reduction in the proportion of privates first class in this department, the pay of 75 per cent of the enlisted men in the medical service will be reduced from $18 to $16 a month. As the care of the sick is not particularly attractive work to the ordinary soldier, this reduction will probably increase the difficulty of obtaining recruits of fit character and intel-

ligence for the medical service. The new law does not provide any promotion for medical officers above the grade of colonel, except the single position of Surgeon-General of the Army. Provision is made for the assignment of five officers of the medical corps for duty with the medical relief department of the Red Cross, and the erection of storehouses by the Red Cross on military reservations or the use of government buildings as such storehouses.

The new law is highly satisfactory in that it establishes a permanent ratio between medical men and enlisted men, provides for an efficient medical reserve, raises the standard of dental and veterinary surgeons, and improves conditions regarding promotion and grade. It is unsatisfactory in that it reduces the pay of enlisted men in the medical corps and so increases the difficulty of securing satisfactory nurses and attendants in military hospitals. This defect, however, can readily be remedied by later amendment.—*Journal A. M. A.*

THE ARMY MEDICAL SERVICE AS A CAREER: AN OPPORTUNITY.

The glamor of military preparedness from a national point of view should not be allowed to obscure the fact that from the standpoint of the individual there has never been so good an opportunity as at present for the physician who desires to enter as a career the medical corps of the army. For competent men there is the certainty of immediate appointment, and the chances of rapid promotion are all that any reasonable person could wish. Through the operation of the recently enacted army reorganization law there are now more than 100 vacancies to be filled; and as the annual increases for which the law provides are made from year to year within the next five years, the men now appointed, if they have proved their fitness for the service, will be rapidly advanced to higher grades. If the president, without waiting for the expiration of the stated annual periods fixed by the act, should exercise the right given him in event of actual or threatened war or similar emergency to organize the entire increase authorized by the law, or any part thereof, that he might deem necessary in addition to the one-fifth that he is required to organize annually, appointments in the near future will be even more numerous and promotions more rapid. Of course, the tenseness of our international relations and a natural spirit of resentment for the unprovoked destruction of American lives tend just now to drive every man possessed of any good red blood toward the military arm of our government, and a physician inclines naturally toward service in the medical corps. But leaving all that aside and looking on the service as offering a career in time of peace as well as in time of war or threatened war, it will be found to invite as do few other fields of medical endeavor. It offers a more than fair living wage, under most congenial conditions, a wage and condition that are certainly superior to those pertaining to the average medical practice. To the physician of a scientific turn, its opportunity for rational practice along strictly scientific lines presents an almost irresistible appeal. Opportunities for study and research in favorable environments are numerous, and officers are encouraged to avail themselves of them. The sacrifice of personal liberty of action which the officer must make for the efficient operation of the service is hardly any greater, if as great, as the surrender of his own independence that all successful practitioners, and many unsuccessful ones, make to the whims and caprices of their patients. While the foregoing applies to the army, it must not be forgotten that the navy also offers opportunity to physicians, but of different kind. Applicants who successfully pass examinations attend the course of instruction at the Naval Medical School, during which time they receive a substantial salary. At the end of this course, if successful, they are commissioned as assistant surgeons in the

navy. A review of recent advances in medical science—particularly in the field of hygiene—indicates that many of the most significant discoveries have been the result of research conducted by officers of the U. S. Army and Navy Medical Corps. The work is not, as many imagine, a dry routine. Exceptional opportunity is offered for independent observation and research. The man of an investigative turn of mind need not be lost as a mere unit in a government bureau, but may express his personality and receive the reward of his personal endeavor. —*Journal of the American Medical Association.*

DISEASE DANGERS OF WAR WITH MEXICO.

Two years ago *The Journal of the American Medical Association* discussed the sanitary problems which must be met if our troops should have to go into Mexico for any length of time. "Today," says *The Journal* for June 24, 1916, "these problems should be considered again. The state militia is mobilizing; large bodies of men are already being concentrated in camps and soon perhaps some will be moving to the Mexican border, if not into Mexico. The guarding of the border is likely to be the duty which will fall particularly to the militia and less trained troops. Actual invasion, if it should come, will no doubt devolve on the regular army.

"Typhoid and smallpox vaccination have practically removed the menace to life from these diseases under military conditions. The militia, however, has not been immunized against typhoid even approximately to the extent that the regular army has been vaccinated. The danger from dysentery, which is still a menace to men in army camps, has been materially lessened through improvements in the preservation and protection of foodstuffs and through increased facilities for the transportation of supplies. Amebic dysentery may be prevented by strict supervision of water supply and filth disposal. The use of emetin in the treatment of this condition will aid in rapidly eradicating such cases as may occur. Malaria and yellow fever, conquered through eradication of the mosquito and prevention of mosquito bites, are no longer to be feared. Cholera, preventable by cleanliness, and typhus fever, the scourge of Mexico, also have been studied, and their prevention can be accomplished by the enforcement of adequate sanitary regulations.

"The sanitation of camps has developed into a science. In the development of this science American investigators—many of them officers of the medical corps of the United States Army and of the Public Health Service—have led the way, and they may be depended on to carry out these measures to the fullest extent. Typhus fever is particularly a Mexican problem. It has been a factor in the present European war, and the measures instituted abroad show how completely this disease may be controlled. Much has been said in connection with the European war of gas gangrene, tetanus and secondary wound infection. The frequency of these infections has been attributed to the cultivation of the soil in the region in which the war is being conducted. If this be the cause, this condition is certainly not to be feared in Mexico. Much of the warfare in Europe has been trench warfare, and diseases peculiar to this method of warfare have frequently been discussed. The problem in Mexico would appear to be a different one. In any event, it hardly seems likely that the old saying that 'disease kills more men than bullets' will hold true.

"We can be sure that American medical officers of every branch of the service will do all that is humanly possible to protect our soldiers in the field. As a result of their service, the American soldier will be safeguarded so that the maximum number of efficient fighting units will be continually available to those concerned with the action of troops at the front."

THE CENTENNIAL OF THE STETHOSCOPE.

One of the great steps in the advancement of internal medicine was the discovery of auscultation. One hundred years ago, in 1816, Laennec, a favorite pupil of Corvisart, was appointed to the position of chief physician at the Necker Hospital in Paris. He was then 35 years of age. There he began his early studies on mediate auscultation with an instrument to which he gave the name of stethoscope. * * * Hippocrates, says Sir Benjamin Ward Richardson, himself might have invented it, and would at once have understood it. Then followed the naming of sounds natural and diseased, throughout all the respiratory divisions, and after them the sounds of the heart, internal and external. We hold the literature thus founded, the language thus invented, to the present hour, the biographer writes: it is as familiar in our mouths as household words.

Immediate auscultation—the direct application of the ear to the chest—was tried by Hippocrates. We are told of this by Laennec himself, who quotes a passage from "De Morbis" to substantiate the statement. The limitations of such a method were clearly described by the French clinician. The process of mediate auscultation was therefore invented by him. It is worth while to read the early story of the stethoscope in Laennec's own words:

In 1816 I was consulted by a young woman laboring under general symptoms of diseased heart, and in whose case percussion and the application of the hand were of little avail on account of the great degree of fatness. The other method just mentioned —immediate auscultation — being rendered inadmissible by the age and sex of the patient, I happened to recollect a simple and well-known fact in acoustics, and fancied, at the same time, that it might be turned to some use on the present occasion. The fact I allude to is the augmented impression of sound when conveyed through certain solid bodies, as when we hear the scratch of a pin at one end of a piece of wood on applying our ear to the other. Immediately, on this suggestion, I rolled a quire of paper into a kind of cylinder, and applied one end of it to the region of the heart and the other to my ear, and was not a little surprised and pleased to find that I could thereby perceive the action of the heart in a manner much more clear and distinct than I had ever been able to do by the immediate application of the ear. From this moment I imagined that the circumstance might furnish means for enabling us to ascertain the character, not only of the action of the heart, but of every species of sound produced by the motion of all the thoracic viscera, and, consequently, for the exploration of the respiration, the voice, the rattle, and perhaps even the fluctuation of fluid extravasated in the pleura or pericardium. With this conviction I forthwith commenced, at the Hospital Necker, a series of observations, which which have been continued to the present time. The consequence is that I have been enabled to discover a set of new signs of diseases of the chest, for the most part certain, simple, and prominent, and calculated, perhaps, to render the diagnosis of the diseases of the lungs, heart, and the pleura as decided and circumstantial as the indications furnished to the surgeon by the introduction of the finger or the sound in the complaints wherein these are used.

With the stethoscope in its various improved, modern forms as a daily—almost hourly—aid to every practitioner of today, it is needless to point out the part which this simple instrument plays in clinical medicine. Laennec's invention was individual in an unusual degree. No one could exhibit jealousy or display rivalry or claim priority. The actual simplicity of the discovery, coupled with its overwhelming usefulness, says Richardson, concealed its greatness until its history was made, and its originator stood alone in his glory. The history of the adoption of the stethoscope into practice shows that men in medicine, like those in

other walks of life, may show a pronounced capacity for resisting the inroads of knowledge. Mental inertia does not always fade in the light of novel and progressive ideas. So the "listening tube" of Laennec found its critics in the olden days. It was looked on by a few as a toy. Others complained that it was inconvenient to carry the original instrument—a cylinder of wood a foot long, divisible in the middle to make it easily portable. It was easier, so the statements went, to apply the ear directly to the chest of the patient, and furthermore, one thus perceives more sounds at the same time. It is no longer necessary to explain and reply as Laennec did. What he wrote in his classic work on "Mediate Auscultation" still holds good:

"I do not hesitate to affirm that physicians who confine themselves to immediate auscultation can never acquire very great accuracy of diagnosis, and will from time to time be liable to commit serious errors."—*Journal of the American Medical Association.*

Cancer Department

"In the early treatment of cancer lies the hope of cure."

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

CANCER OF THE BLADDER.

Cancer comprises about fifty per cent of the tumors of the bladder, and is usually preceded by a benign growth, a papilloma, therefore the high rate of inoperability of bladder neoplasms when first seen by the surgeon should be capable of a great deal of improvement.

Since the advent of the cystoscope the interior of the bladder may be inspected with almost as much ease as the skin, and beginning neoplasms discovered before they become malignant. Judd in reporting a series of cases of bladder tumors occurring in their clinic, found that about thirty-two per cent were inoperable when examined; also that the average time elapsing between the appearance of symptoms and the surgical consultation was something over three years. The most constant symptom during this interim is bleeding, which occurred in over ninety per cent of the cases. This varied from a slight almost microscopic amount of blood to a profuse hemorrhage. Hemorrhage in the cases of papilloma usually begins by sudden painless attacks of bleeding lasting for a few days and then clearing up entirely with no symptoms in the intervals. The attacks gradually become more frequent until finally there is an almost constant bleeding, indicating the advent of a malignant change in the papilomatous growth. The other common symptoms of bladder neoplasm are, in the order of their frequency: frequency of urination, pain at the beginning and end of the act, pus in the urine, and difficulty in starting and stopping the stream.

Given the above symptoms in a man over thirty-five years of age one should adopt as a safe rule of procedure the habit of considering the case one of malignancy until it is proven otherwise, and should lose no time in establishing such proof. The treatment of the papilomatas by the cystoscopic application of the fulgurating electric current is so simple and usually so satisfactory that these potential cancers should never be allowed to go untreated long enough to become cancers.

The man who treats hemorrhages from the bladder by the internal administration of urotropin, and the local application of an irrigating fluid, without finding out the cause of the hemorrhage, is a criminal.

MEDICAL CORPS OF THE U. S. NAVY.

The next examination for appointment in the Medical Corps of the Navy will be held on or about August 7, 1916, at Washington, D. C., Boston, Mass., New York, N. Y., Philadelphia, Pa., Norfolk, Va., Charleston, S. C., Great Lakes (Chicago), Ill., Mare Island, Cal., and Puget Sound, Wash.

Applicants must be citizens of the United States and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects (a) anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School, which will begin on or about October 1, 1916. During this course he receives a salary of $2,000 per annum, with allowances for quarters, heat, and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

THE THREE "C'S" OF CARING FOR MILK IN THE HOME.

The three "C's" for the proper care of milk in the home, according to the dairy specialists of the U. S. Department of Agriculture, are:

Keep milk { Clean
Cold
Covered

Milk is a highly perishable food and the length of time it will remain sweet and safe, especially for children, depends, the specialists say, almost entirely upon the constant care it receives from cow to consumer. Milk passes through three agencies—the producer, the dealer, and the consumer. If the first two have done their part, clean, safe milk will be delivered, thoroughly chilled, to the consumer. The consumer's responsibility begins the moment the milk is delivered at his doorstep.

Because milk poured from vessel to vessel on the street is very liable to contamination from dust, manure particles and germs, milk is best delivered in capped bottles. If bottled milk can not be obtained, the housewife should try to have someone in the family receive the milk in a clean, scalded utensil, cover it instantly, and put it without delay into the refrigerator, or the coldest available place. Under no circumstance should an uncovered pitcher, bowl or pan be left out on the porch to receive bulk milk. The vessel, both before and after the milk is poured into it, is accessible to flies and collects particles of dust and dirt.

Even in the case of bottled milk, however, the consumer must see that the bottle is not left out in the heat for a moment longer than is necessary. Milk should be delivered and kept at a temperature of 50° F. or lower—the colder the better. At such temperatures bacteria develop very slowly and milk undergoes little change until consumed. A slight rise in temperature above this point, however, permits bacteria to multiply rapidly and brings about rapid deterioration of the milk, which may render it unfit for ordinary use and make it highly dangerous for babies and little children. For this reason bottled or other milk should not be allowed to remain in a warm place, as on a sunny porch or in a hot kitchen, for a moment longer than is necessary.

Delivery of Milk in Hot Weather.

In hot weather the best plan is to have the milkman put the milk directly into the refrigerator, because at that time of year milk can not be kept properly without ice.

If a refrigerator is not available, provide a small box containing ice, and if ice is unobtainable, provide some tight container with insulated walls that keep the heat from getting rapidly to the cold milk. A home-made fireless cooker is admirable for this purpose, especially if partially filled with ice. In the absence of any of these devices, arrange with the milkman not to leave the milk in the sunlight, but to put it in the coolest, shadiest place around the house.

Handling Milk in the Home.

In handling milk around the home, do not pour it from one vessel to another until it is to be consumed. Do not let the bottle of milk remain out of the refrigerator a moment longer than is necessary. Keep the milk covered, using paper caps or an inverted tumbler on bottles, or storing it in covered utensils. Any household utensil that is to be used as a vessel for keeping milk should first be cleaned thoroughly and scalded.

Before opening a bottle of milk, wash and wipe the neck and outside of the cap with water and a clean cloth. The little depression on the top of the cap may collect dust or water and any milk that leaks out may attract flies. Lift out the cap with a pointed instrument, so that the outside of the cap, which may be contaminated, will not be pushed down into the milk. Each time the milk is to be poured from the bottle it is a wise precaution to wash the neck as described.

Milk in a Refrigerator.

The refrigerator where milk is stored should be cleaned regularly, especial care being given to keeping the drip pipe free and clean. The ice rack also should be cleaned and any place where food is kept or milk stored should be scalded occasionally with sal-soda solution. The refrigerator, even though cold, may quickly be contaminated by a few drops of spilled milk, or by small particles of food. No matter how clean the refrigerator, milk should never be kept in an open vessel. As milk absorbs odors easily, such food as fish, cabbage, or onions should not be kept in proximity to it.

Clean Empty Bottles.

As soon as a milk bottle is emptied, rinse it thoroughly with cold water. Do not return dirty bottles and do not use milk bottles except to hold milk. Returning dirty bottles to the milkman may mean that a few days later either you or your neighbors will get contaminated milk. Milk bottles should never be taken into a sick room. In case of infectious or contagious disease, all bottles should be boiled thoroughly and should not be returned to the dealer without the express permission of the attending physician. Such diseases easily can be made epidemic through disregard of this precaution.

Where There Are Children.

Care of milk, important for all, is a vital necessity in a home where there are children. It is absolutely essential to the safety of babies. No intelligent mother will leave to an ordinary servant the task of caring for or preparing the milk for her baby. Mothers of small children should get, from their own physicians, explicit directions for the proper handling of milk and for cleaning and sterilizing nursing bottles. Pamphlets on infant feeding may be obtained from the municipal milk stations or health officers. Milk for babies can not be kept too cold, and too much care can not be given to keeping it clean and covered.

Further information on this subject may be had by writing to the U. S. Department of Agriculture, Washington, D. C., for Farmers' Bulletin 413, "Care of Milk and Its Use in the Home."

WARNING.

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books published by various firms. He usually represents himself as a student, working his

way through college and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas and F. C. Schneider and he usually gives a receipt bearing the heading of some society or association, such as United Students' Aid Society; the Alumni Educational League; the American Association for Education.

The description given of this swindler is —young man of the Jewish type, rather slender, with very dark hair combed straight back and shows his teeth plainly when talking.

The whole scheme is a fraud. The societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals and skip with the money.

This young man does not represent W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription agent and physicians, generally, should be on the lookout for him.

Reviews from Current Literature

DIAGNOSIS OF TUBERCULOSIS

Thompson, Sam E.: Common Sense and the Fever Thermometer vs. the Stethoscope and the Microscope in the Diagnosis of Early Pulmonary Tuberculosis. Southern Medical Journal, July, 1916, Vol. IX, p. 583.

In presenting this paper the author endeavors to prove the following:

1. That we are finding only a very small per cent of our incipient tuberculosis patients.
2. That this is due largely to faulty teaching.
3. That as a result of this faulty teaching we can not rely upon the stethoscope.
4. That the microscope will not make a sufficiently early diagnosis.
5. That in using common sense and the fever thermometer we can find a large number of early cases.

From the best information the author has been able to obtain, not more than 10 per cent of tuberculous patients sent to sanatoria are in the incipient stage; notwithstanding the fact that more than 60 per cent of them are classified as first stage cases by the doctors making out the applications.

As I see it, faulty teaching has given us the wrong idea of tuberculosis. Our clinical picture of the early stage of this disease is wrong. From textbook descriptions of tuberculosis, the man in the street can make the diagnosis. With these teachings before them physicians will not even suspect tuberculosis.

Before the appearance of germs in the expectoration there must be (as a rule) extensive ulceration, softening and breaking down of lung tissue. To save our patients and to check the spread of the disease, the diagnosis must be made and treatment begun before this condition is reached. Withholding the diagnosis for a positive sputum and waiting till our patient "looks like" he has tuberculosis is more fatal than Sydenham's injunction to "ride and rough it" as a cure. The common sense symptoms for which we must look, and upon which our opinion must be based, are:

1. Fatigue, an unreasonable fatigue, without sufficient exercise to produce it.
2. The feeling of being "run down," a persistent state of feeling bad.
3. An appetite without edge, a persistent indifference to food.
4. Loss of energy and mental tone.
5. Indigestion or slight loss of weight.
6. Slight morning cough or tendency to clear the throat.
7. Chest pains, usually between or below the scapulae, pains aching in character.
8. Reflex hoarseness.
9. Rapid pulse, 80 or above.

These are among the earliest symptoms and when they persist or persistently recur, no other diagnosis is justifiable until we can positively eliminate tuberculosis.

In closing the author says:

"Let me beg that we make our attitude towards tuberculosis one of eternal suspicion. The 'white plague' is everywhere. It is the most common, the most frequent of all diseases. The finding of our early cases is the general practitioner's burden, and if he will depend less upon the stethoscope and the microscope and rely more on common sense and the fever thermometer, he will find a much higher per cent of his early cases and thousands of lives will be saved annually. T. T.

PREGNANCY IN THE TUBERCULOUS

Norris, Charles C.: Pregnancy in the Tuberculous. American Journal of Obstetrics, 1916, p. 997.

The author's paper is based upon a study of 68 cases of pregnancy in tuberculous women and includes a thorough resume of the literature. He draws the following conclusions:

The combination of pregnancy and pulmonary tuberculosis is a frequent one.

Pulmonary tuberculosis exerts little or no influence against conception and, except in the advanced stages, exerts little or no influence towards causing abortion, miscarriage, or premature labor.

About 20 per cent of mild, quiescent pulmonary tuberculosis and 70 per cent of more advanced cases exhibit exacerbations during the pregnancy or the puerperium.

Marriage is worse for the tuberculous woman than for the tuberculous man owing to the dangers incident to pregnancy.

Unless the tuberculous lesions have been quiescent for a moderately prolonged period, tuberculous women should not marry.

Tuberculous women should not become pregnant unless the disease is in the first stage and has been quiescent for a minimum of two years.

It is as yet impossible to determine with certainty which case will bear the added strain of pregnancy well and which badly. We must individualize our patients. Moderately extensive lesions, recent activity, the development of secondary lesions, especially laryngeal involvement, loss of weight, fever, hemorrhage, sweats, lack of vigor, and the inability to obtain proper treatment are ill omens. The reverse is more favorable.

Prior to the fifth month of pregnancy the uterus should be emptied if the disease manifests any evidence of becoming active. Curettage during the first six or eight weeks, and in the later cases vaginal hysterotomy are the preferable methods. Interruption of the pregnancy does not secure an amelioration of the pulmonary condition but does greatly improve the prognosis. About 65 to 70 per cent of cases, prior to the fifth month of pregnancy, will be definitely improved by empting the uterus as soon as acute symptoms arise, provided that proper after treatment is carried out. Late intervention, that is after a week or more from the onset of the exacerbation, has given less satisfactory results. Sterilization is rarely justifiable.

After the fifth month it is generally advisable to treat these patients expectantly. Labor should be made as easy as possible. Induction of labor two weeks before term is often advisable. Rarely, if ever, should they be allowed to go beyond term. At labor forceps or version is usually indicated.

Infants should not nurse and should be otherwise guarded against infection.

Hygienic and dietary treatment should be employed at all times. Patients should be examined by a competent internist at frequent intervals.

In most cases tuberculosis precedes the pregnancy. Even when symptoms are first observed during pregnancy the infection probably occurred before conception.

G. R. H.

SUGARS AND STARCHES IN INFANT FEEDING

Southworth, Thomas S.: Sugars and Starches in Infant Feeding. Pediatrics, Vol. XXVIII, 1916, p. 47.

Sugars and starches not only furnish fuel for heat and energy but are stored in body as reserve fat and as a protection against heat radiation. Of the different forms of sugar lactose is slowest in absorption and

hence exercises a prolonged influence upon intestinal flora. This is an advantage in healthy conditions of the intestinal tract, but may be of disadvantage upon the occurrence of intestinal disturbance. Milk sugar is often gotten from unreliable sources and is capable of causing serious trouble with digestion. Milk sugar from a reliable source should be insisted upon.

Cane sugar and maltose-dextrin are less apt to be contaminated.

The limit of toleration for maltose-dextrin is about double that of the other forms of sugar and this is a point in favor of its employment when considerable quantities of sugar are indicated. Finklestein has gradually receded from his position that lactose under given conditions inevitably produces fever, and the role played by bacteria in causing fermentation of carbohydrates has recovered a dominant position.

In diarrheal conditions the acidity of the stools may be increased 500 per cent by giving increasing amounts of milk sugar. The effect of this is to markedly increase peristalsis. Absorption from the intestines can not occur if peristalsis is very active, therefore sugars must be decreased or eliminated under such conditions.

In using cereal diluents a preparation containing 0.75 per cent of starch is usually within safe limits for infants, and sufficient for its protective colloidal effect on casein coagulation. In addition to this action boiled starch has nutritive and remedial properties. The addition of a cereal diluent to milk during the last half of the first year often shows brilliant results in gains of weight. Difference of opinion exists as to what age such utilization of starches becomes sufficient to be taken into account. Starches are of special value in putrefactive conditions owing to their favoring influence on the growth of the lactic types of bacilli. Starch is also recognized as tending to delay peristalsis and is of use when intestinal disturbance has been caused by the employment of milk sugar or cane sugar. J. D. L.

THE LEUTIN REACTION IN CONGENITAL SYPHILIS

Gordon, Murray B.: The Value of the Luetin Reaction in Congenital Syphilis. Archives of Pediatrics, Vol. XXXIII, 1916, p. 186.

The technique as originally given by Noguchi is described in detail and three different forms of both negative and positive reactions are pictured. Case histories are given of 22 children suffering from congenital lues. Eighty-one per cent of these gave a positive reaction. In the author's experience the minimum age limit for the positive reaction is twelve months, though some observers have obtained positives even in the first month. The luetin test is better adapted for pediatric work than the Wassermann and especially does this apply to dispensary work and in instances where parents refuse to allow blood to be drawn from a child. Familiarity with the technique of the test is readiy acquired, the interpretation is comparatively without difficulty and it is readily available for every practitioner. The emulsion used in making the test is absolutely sterile, is safe and its use is unattended by constitutional disturbance.

J. D. L.

VALUE OF AUTOSERUM IN SKIN DISEASES

Gottheil, William S.: The Value of Autoserum Injections in Skin Diseases. The New York Medical Journal, Vol. CIII, 1916, p. 1209.

Gottheil calls our attention to the subject of autogenous serum injections in certain of the chronic and reoccurring skin affections, especially psoriasis. The article is of particular interest in view of the fact of a previous report of the writer some two years ago, also from the fact that there have occurred from time to time in the medical literature a varied view of the subject by a number of prominent dermatologists. In his article Gottheil mentions the reports of Fox, Williams, Willock, Ravich, Trimble, Kingsbury and others. To quote the writer in his article, "I hold no brief for the serum treatment, and I should not call renewed attention to it if the experience of the last two years had not convinced me of its use-

fulness. I recognize the cogency of some of the criticism. It takes time and trouble, if done *secundom artem;* and it should never be done save under these conditions. There is necessarily some expense connected with its employment. It is not, therefore, suitable for routine treatment of dispensary patients, where rapidity and inexpensiveness are required. But these are not considerations of moment in private practice. Will it do good? Will it enable us to accomplish results otherwise, in some cases at least, unattainable? Will it enable us to avoid or mitigate the disagreeable features necessarily incident to the treatment of an extensive and obstinate general dermatosis? Will it prevent or even postpone the reappearance of the malady? And finally is it a safe procedure? To all these questions I can unhesitatingly answer, "Yes."

In the article Gottheil briefly reviews some of the cases treated by him with autogenous serum injections, and the following conclusions are given by him:

"1. In psoriasis the autogenous serum treatment, while not itself curative of the disease, is an important factor in the treatment. It cuts down the time required for the troublesome local treatment from weeks to days, and enables us to promise to clear the skin from two to five days in even the worst and most obstinate cases. It postpones relapses for a long time, possibly indefinitely. In most cases it so influences the type of the disease that the relapsing lesions are few and insignificant, and are readily amenable to local treatment.

2. In chronic urticaria, neurodermatitis, pruritus senilis, and other obstinate itchy dermatoses, it is worthy of trial. In some cases its action is effective and brilliant.

3. It is of some value in bad pustular acne; but in furunculosis, folliculitis, and other pus infections I have not found it useful.

4. In chronic eczema the same may be said as of acne; the injections are sometimes apparently effective, and at others fail entirely.

5. In pemphigus, lepra, and obstinate lichen planus it is ineffective.

6. In syphilis it is useless." J. L. K.-S.

ROENTGEN DIAGNOSIS OF GALLSTONES

Case, J. T., M. D., F. A. C. S.: Some Statistics on the Negative and Positive Roentgen Diagnosis of Gallstones. Amer. Jour. of Roentgenology, Vol. III (new series), 1916, p. 251.

"Including the forty-one operated cases in which gallstones were found, and the fourteen cases in which the Roentgen report was 'suspicious of gallstones,' I have a series of fifty-five cases of gall-bladder disease, some without stones, in forty-eight of which the X-ray evidence pointed definitely to the gall bladder. We may, therefore, conclude that it is possible to definitely show gallstones in fifty per cent of positive cases, and to show Roentgen evidence of gall-bladder lesion in eighty-eight per cent of the cases of gall-bladder disease.

Of course from the X-ray examination it is not possible to make a positive declaration as to the absence of gallstones. Many patients are not operated. Percentages on this point would be extremely misleading. Hence I have refrained from expressing my negative findings in percentages except to show the absurdity of such statistics. The point that I wish to make is that gallstones are demonstrable with much greater frequency than has until recently been conceded. The frequency with which stones may be shown is so great that I believe the time has arrived when the X-ray examination should be required in every suspected case." L. W. C.

TREATMENT OF CARBUNCLES BY THE ROENTGEN RAY

Dunham, Kennon, M. D.: Treatment of Carbuncles by the Roentgen Ray. Amer. Jour. of Roentgenology, Vol. III, 1916, p. 259.

The author reports the successful treatment of sixty-seven consecutive carbuncles by means of the Roentgen ray.

The treatment as he administers it consists

of one full therapeutic dose with the Coolidge tube, target distance eight inches through three mm. of aluminum with a nine-inch spark gap.

Only one such exposure is required provided the entire induration has been exposed. The results: within less than 48 hours the entire clinical condition of the patient has changed. The first night after the treatment the patient is usually more restless and sometimes believes that the treatment has done him harm, but the second night he sleeps well. The infected area ceases to be painful and the infected part can be moved without distress. From now on the object of the treatment is to prevent reinfection.

Sometimes the induration is gradually absorbed with little or no discharge. At other times it breaks down and discharges through the numerous sinuses, but usually a large carbuncle will soften up and take on the appearance of an abscess. In such cases it is a very simple matter to lance it and permit free drainage.

Almost no scar results after this method of treatment. He has applied the treatment to palmer abcesses of the streptococcic type with excellent results.

He has hoped to try it on a felon, but no such opportunity has presented itself.

Apparently it is the streptococcic infections that receive the most benefit.

Nothing in all roentgentherapy gives such positive results as the treatment of a carbuncle. L. W. C.

TUBERCULOSIS

Bissell, Frank S.: Roentgen Symptomatology of Pulmonary Tuberculosis. Amer. Jour. of Roentgenology, Vol. III, 1916, p. 139.

Bissell brings out again the value of the X-ray in the early diagnosis of tuberculosis of the lung.

"Kennon Dunham has described an interwoven appearance of pulmonary striæ which he regards a sign characteristic of tuberculous infection. This contention has much anatomical and clinical support, the merits of which will be discussed in this paper.

"A study of clinical cases is somewhat inconclusive because the earliest tuberculous changes are entirely unproductive of symptoms or physical signs; because a positive tuberculin reaction is not accepted generally as conclusive evidence of active tuberculous infection and because many cases of tuberculous disease of the lung proceed to complete recovery either with or without treatment. To those who believe that a positive reaction is of some significance, and amongst these I desire to identify myself, there is some satisfaction in our observation that this reaction and the presence of the phenomenon of peripheral interweaving seem to go hand in hand. Thus, in 63 consecutive cases in which a positive constitutional reaction was obtained, the characteristic interweaving was noted in every case. In 12 cases, which were negative to tuberculin, the network was absent in 10, while in the other 2 it was atypical.

The author concludes:

"1. The tuberculous lesion, very early in its development, presents certain distinctive characteristics recognizable in the roentgenogram.

"2. The differentiation of symptom-producing from nonsymptom-producing lesions is a clinical as well as a roentgenological problem.

"3. The roentgenogram frequently presents the only objective signs of the disease and a roentgen study of every case is of the utmost importance from the standpoint of diagnosis and of prognosis.

"4. The coordination of positive roentgenographic data and the constitutional tuberculin reaction is significant." L. W. C.

Be Sure and Read Bulletin 6 on Advertising Page VI

Publisher's Notes

ADRENALIN IN HAY FEVER.

Many able therapeutists aver that the best method of treating hay fever is by prophylaxis. The contention is not without substantial foundation since it is in consonance with the modern trend of preventive medication. Unfortunately, the physician not uncommonly lacks opportunity for the application of prophylactic measures. In a majority of cases the disease has already manifested itself when his services are sought. The situation then calls for prompt, effective treatment. Application of the suprarenal substance in the form of Adrenalin Chloride Solution or Adrenalin Inhalant is undoubtedly a wise procedure at this juncture. One feels justified in saying this in view of the long, efficient service that has been rendered by these agents in the treatment of hay fever.

While not specifics in the strictest sense, the Adrenalin solutions control the hay-fever symptoms effectively and secure for the patient a marked degree of comfort. By reason of their astringent property, they constrict the capillaries, arrest the nasal discharge, minimize cough, headache and other reflex symptoms, and hasten the resumption of natural breathing.

For topical use in the treatment of hay fever Adrenalin Chloride Solution should first be diluted with four to five times its volume of physiologic salt solution; Adrenalin Inhalant should be diluted with three to four times its volume of olive oil. The solutions are applied in spray form to the nares and pharynx. Any good atomizer adapted to the use of oily or aqueous substances is suited to the purpose.

A VALUABLE NEW CATALOGUE.

Parke, Davis & Co. announce the publication of their 1916 price list, which is said to be an improvement in many respects over any previous issue of this valuable catalogue. The book is divided into three parts: Part 1—Fluid Extracts, Pills, Elixirs, Syrups, Tablets, etc.; Part 2—Specialties, into which have been merged Special Preparations; Part 3—Biological Products. The nomenclature of the U. S. P., Ninth Revision, has been adopted in the new list, the term "milliliter" ("mil") being substituted for the cumbersome "cubic centimeter." The standards of the new U. S. P. applying to fluid, solid and powdered extracts and tinctures, together with the doses, have also been adopted. All Harrison-act items (products that must be ordered on official order forms) are clearly distinguished. Its amplitude, its handy classification, its comprehensive general index, all serve to make the new catalogue a reference book of the utmost value to medical practitioners. We understand that the book will be ready for distribution about August 1st. Physicians are advised to write for a copy, addressing their requests to Parke, Davis & Co., Detroit, Mich.

Our Advertisers Are Helping Us
Are You Helping Them?

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, August, 1916 Number 2

ORIGINAL ARTICLES

LUMBAR PUNCTURE AND EXAMINATION OF THE SPINAL FLUID.*

RALPH N. GREENE, M. D.,
Chattahoochee, Fla.

In coming before you today for the purpose of presenting a paper, I desire to thank the gentlemen of the scientific committee for the honor bestowed upon me by extending to me an invitation to be present at this meeting of the Florida Medical Association. I am inclined to experience the same quakings that were felt by the meek and humble bat, who, in the course of his blind and aimless gropings, suddenly found himself in the majestic presence of a rookery of eagles. My timidity, however, is more than minimized by the opportunity afforded me, in being permitted to mingle with and exchange ideas with those now present, the distinguished physicians who compose the membership of this organization.

I will take the liberty to invite your attention at this time to a discussion of the question of the performance of the operation of rachiocentisis and the study of the spinal fluid. Interest in organic diseases of the brain and spinal cord is now more intense than ever before, due in part to the fact that insanity is no longer looked upon in the light of being a disgrace, but as a true disease entity, and further, through the epoch-making discoveries in the way of newly devised laboratory techniques, we are often enabled to diagnose, in general practice, early organic disease of the brain and cord, through the medium of examination of the spinal fluid.

I wish to say in the outset that I lay no claim to originality for the ideas advanced in this article, nor do I assume to a superior knowledge of the subject. I have quoted freely from numerous textbooks, monographs and other sources of information. By virtue of having had a rather extensive personal experience among patients with diseases of the mind and nervous system, it may be that I can suggest some ideas that will at least be a means of precipitating a discussion among you of benefit to the essayist and which may be a means of stimulating more interest in the early diagnosis of mental and nervous diseases, the victims of which unfortunate conditions constitute a class, more to be pitied than any other class of diseased humans.

In the stress of general practice I am inclined to the belief that the matter of making a thorough study of the spinal fluid is often lost sight of and to a more or less degree forgotten and because of the comparative infrequency with which the general practitioner encounters cases that really demand the operation of lumbar puncture, there is probably a tendency to relapse into the rut of not doing the operation except in rare instances.

Kaplan states that the credit for first withdrawing cerebrospinal fluid, properly, by right of priority, belongs to an American physician, Dr. J. D. Corning, who performed lumbar puncture in 1885. Essex Witner later conceived the idea of diminishing intracranial pressure by performing ventricular puncture. Cotungo, as early as 1769, studied the nature of spinal fluid in animals and men. Later, in a patient in whom the fontanels had prematurely closed, and in whom it was desired to reduce pressure, lumbar puncture had to be resorted to for

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

the purpose of withdrawing cerebrospinal fluid. This was done in 1889, and although the technique was crude, it served as a stimulus to other workers who further elaborated the study of the spinal fluid. The first paper by Quincke on the Technique of Lumbar Puncture and the Study of Cerebrospinal Fluid appeared in 1891. The thoroughness with which the subject was treated, and the painstaking efforts of the distinguished German investigator, justify the coupling of his name with the operation of lumbar puncture and, in fact, with the entire subject of research work done on the cerebrospinal fluid.

The spinal fluid occupies the space between the pia and the arachnoid, the so-called subarachnoid space. It comes in contact with the periphery of the brain and cord and probably communicates with the ventricles. Cerebrospinal fluid can be demonstrated as early as the fourth month of fetal life and at a time when the pacchionian bodies are absent. The theory has been advanced that the pacchionian bodies act as a filtration agent for the spinal fluid, and that, therefore, the elimination of carbon dioxide is augmented and carried out. This theory is as yet unproved and is of no practical importance. It has also been held that the pacchionian bodies play an important role in the formation of cerebrospinal fluid. The fact that the fluid is demonstrable before the pacchionian bodies are formed would seem to disprove this.

It has been said by Mott that the fluid is probably a secretion of the choroid plexus of cells, which statement is probably true. It is improbable that an opening between the ventricles and subarachnoid space exists. In patients with icterus the spinal fluid is stained yellow, whereas the fluid in the ventricles remains unstained. It is a popularly accepted theory that because spinal fluid presents an appearance of hemorrhagic discoloration in cases of rupture of the ventricles that a natural opening exists between the ventricles and the subarachnoid space. This is probably an erroneous view as the trauma necessary to produce rupture of a cerebral ventricle would in all probability be of sufficient violence to break down any natural barrier that may exist between the subarachnoid space and the ventricular cavities. This idea in itself seems to be rather faulty because of the fact that small particles of dyestuff injected into the spinal canal will find their way into the ventricular fluid. The phenomenon would appear to disprove the theory that the pacchionian bodies act as a filtration medium. It has been demonstrated within the last year by experimental work on dogs that liquids colored with aniline dyes may be injected into the spinal canal with sufficient force to cause the colored spinal fluid to find its way through the cribiform plate of the ethmoid and escape from the nostrils of the animal; and, as an interesting observation, this extreme pressure was without serious results for the animal.

The subarachnoid space is traversed by fine connective tissue trabeculæ, of which little is known although they assume a pathological role when they become thickened. The chief function of the cerebrospinal fluid is that of a protective agent in that it acts as a cushion and prevents a jarring of the substances surrounded by it. The cerebrospinal fluid also tends to neutralize substances that are considered as excretory, forming inert combinations of complex organic constitution. Mott in a personal communication to Kaplan suggests that the presence of glucose in the spinal fluid appears to furnish an energy supply to the nervous apparatus.

It is desirous to obtain specimens of the spinal fluid for the purpose of assisting in establishing diagnoses and for the purpose of carrying out different therapeutic procedures.

In many of the obscure meningeal inflammatory conditions encountered in children an accurate diagnosis can hardly be made without an examination of the spinal fluid.

Many of the cases of insanity that one encounters are difficult of diagnosis, with any degree of certainty, without lumbar puncture. Among the psychoses and nervous diseases may be mentioned general paresis and locomotor ataxia. In these two conditions the presence of an increase in cell count is highly significant and often it has been observed that the cerebrospinal fluid gives a positive Wassermann reaction in cases where serum from the general blood circulation shows a negative Wassermann. Tubercular meningitis, meningococcic meningitis, and in fact any of the bacillary infectious conditions found in the spinal fluid are of necessity obscure and indefinite without a careful examination of the cerebrospinal secretion. In cases of increased intracranial pressure, the mere withdrawal of the fluid is rewarded with a surprising amount of improvement in the patient. Flexner's serum, in cases of cerebrospinal meningitis, when injected into the spinal canal early, has reduced the mortality rate of this disease from 90 per cent to the surprisingly low rate of 10 per cent. The use of a solution of magnesium sulphate injected intraspinously in cases of tetanus has worked happily in many instances. Antitetanic serum injected into the muscle, given intravenously and intraspinously, often effects a prompt recovery in cases that would have been regarded as fatal ones under former plans of treatment.

Comparatively recently, in cases of paresis, locomotor ataxia and cerebrospinal syphilis, it has been the plan to subject the patient to a series of intravenous injections of salvarsan, and after a few such injections have been given, the blood is drawn off, twenty minutes after an intravenous injection of salvarsan, in sufficient quantity to produce from 15 to 30 cubic centimeters of serum, which is not only a salvarsanized serum but, probably on account of its recent contact with spirochetes, contains real antibodies and is consequently possessed of antitoxic properties. This serum is injected with equal parts of normal saline solution or without dilution with saline solution, into the spinal canal, the same amount or a greater amount of spinal fluid having been previously withdrawn than that of the quantity of serum to be injected. At the meeting of the American Medico-Psychological Association at Old Point Comfort, Virginia, and at the meeting of Alienists and Neurologists in Chicago during the past year the question of treating syphilitic diseases of the nervous system by this so-called Swift-Ellis technique was thoroughly discussed by men of unquestioned ability, and while there was a tendency toward extreme conservatism, the fact that numerous cases of paresis had been discharged and had been out of institutions for periods of as long as two years, and while slightly demented still able to earn a living and occupy their former position in the business world, would seem to add an element of optimism to the discussion of the subject. In our own experience at Chattahoochee we have been dubious to an extreme degree of the wiseness of this plan of treatment so far as effecting cures and mental restorations in cases of paresis and other metasyphilitic conditions of the central nervous system are concerned. The theory is a brilliant one to say the least, but because of the fact that arsenic is demonstrable in the spinal fluid soon after a patient has been given an intravenous injection of 606, and because of the fact that the spirochetes are imbedded in the brain substances in localities that are far removed from the active blood circulation, because of the further fact that all the evidences at hand would seem to indicate that the circulation is not from without inward in the brain, but from within outward, and because of the fact that blood stained with aniline dyes and injected into the spinal canal, and even into the cranium, scarcely finds its way to any extent over the brain surface even, and in no instance penetrates the brain substance, it would appear that even assuming that 606 is a specific for syphilis, there is absolutely

no assurance, by any means at hand, that the drug is coming in contact with the organisms of syphilis imbedded in the brain, no matter how the drug may be administered. The only ray of hope to be offered in a condition of this kind is the obscure one which rests upon the possibility of the antitoxic property of salvarsanized blood serum being absorbed in some way as yet unknown to the medical profession. Intraventricular injection of neosalvarsan dissolved in the patient's blood serum is a recent new plan of treatment in paresis. This seems to give promise of favorable results. It may be stated that the neurologic and psychiatric world has for sometime been investigating, and is yet working courageously on the problem. A roseate deepening flushes in the East which we trust presages a day in which paresis and locomotor ataxia will become amenable to physicians' treatment.

The weight of opinion from our most eminent men in the psychiatric world is that paresis and locomotor ataxia are in every instance caused by syphilis, but that they are not active manifestations of the disease. A valuable point in considering the gravity of a mental case that is known to have in the past contracted syphilis, is to bear in mind that no case of paresis has ever been known, so far as we are able to determine, to develop under a time minimum of two years, and it may be said that the vast majority have not developed paresis or locomotor ataxia until five or more years time have elapsed from the date of acquiring the initial lesion of syphilis. On the other hand it is a matter of common knowledge to us all that tertiary lesions of syphilis develop frequently within a year's time from the appearance of the initial lesion.

Before attempting the operation of lumbar puncture it is advisable to consider some of the complications and contraindications of the procedure. In cases of tumors of the posterior fossæ of the cerebellum, wherein the necessity for examining the fluid for the definite establishment of a diagnosis of syphilis seems urgent and necessary, it is permissable to remove one or two cubic centimeters of the fluid, replacing same with an equal amount of sterile normal saline solution and then placing the patient in bed with the feet elevated for at least four hours. In cases of extreme physical debility it is advised not to perform lumbar puncture. There have been quite a few deaths following the procedure and complications such as paraplegia as the result of puncturing a vein have occurred, but I may say that in an experience of several years, doing the operation as a routine procedure, and seeing it done by my colleagues time and time again, I have never seen any unfavorable results other than headache which disappears rapidly upon rest in bed, liquid diet, a purgative, and occasionally a small dose of morphine. In doing the operation of lumbar puncture I am convinced that the procedure is not free from danger, especially when performed with the patient in the sitting position. It has been shown that, in cases of brain tumor particularly, the sudden withdrawal of spinal fluid is inclined to produce a condition of prolapse of the cerebral structures into the foramen magnum with consequent pressure on the blood vessels and danger of syncope from cardiac or respiratory failure. It is my practice to have the patient in the recumbent position on his side with the body arched forward at both extremities and the spinal column consequently in a position of extreme flexion. A needle with stylet in place is introduced on an imaginary line between the crests of the iliac bones at the junction at the third or fourth lumbar vertebræ. In the adult the spinous processes are more acutely depressed and less in the horizontal plane than they are in the child, therefore, in the adult the needle is usually introduced a little to one side of the median line, and introduced in a slightly upward direction. In the child the needle should be introduced directly in the horizontal plane. In performing the operation for the first time it requires considerable

self-confidence by virtue of the fact that it is necessary to introduce the needle for a distance of from 2½ to 3 inches. The tough ligamentum subflavum requires considerable introducing force and the needle should be held between the thumb and index finger rather close to the skin at all times. Haste should be avoided as sudden impact with the bony structures may cause breakage of the needle. The entrance of the needle into the spinal canal is usually indicated by a sudden diminution in the amount of resistance. The specimen of spinal fluid may be tinged with blood. This may indicate a previously occurred meningeal hemorrhage or it may be that a small blood vessel has been broken in the introduction of the needle. The spinal fluid in cases of meningeal hemorrhage is less red in color than that observed in a condition of very recent hemorrhage. Occasionally we encounter a dry tap and in the past operators have been subjected to some unwarranted criticism when announcing that they had encountered a condition of dry tap, but it has been demonstrated in these cases that by introducing a needle into the next interspace above and injecting normal salt solution, that this salt solution would run from the lower needle, thus establishing beyond question that a dry tap is entirely possible. The patient can assist in the process of introducing the needle by taking a long breath. It is entirely possible that the spinal fluid is not in a state of stagnation. It probably has a definite route and direction of flow. The bilateral ligamentum denticulatum, the septum posticum of Magendie, and the aeriolar trabucalæ may act as valves and control the flow of the spinal fluid in one direction. The fluid is probably forced into the sub-arachnoid space, and again into the anterior chamber of the spinal column by the variation in pressure, and resistance brought about by the filling and emptying of the veins in the dura mater, the act of inspiration and respiration, and the diastolic and systolic action of the heart.

Of course, it is needless to say that the operation of lumbar puncture should be done under strict aseptic precaution and, as previously stated, in the recumbent position. In each instance it is advisable to have at hand a hypodermic syringe with ether for use in case of threatened collapse. This is preferable to strychnine owing to its locally irritative and reflex stimulative effect.

The specific gravity of spinal fluid ranges from 1.003 to 1.009. It is absolutely tasteless and odorless. In pathological states even the color of the fluid may be unchanged, and, in fact, in the majority of diseases of the nervous system, the fluid is not different in appearance from that of a normal fluid. I had the opportunity of examining specimens of spinal fluid from a case of epidemic cerebrospinal meningitis, which was of a greenish, turbid consistency and color. Later on the cord, ventricles and outer surface of the brain were found to be bathed in pus. Normal fluid has no ability to form a clot. In diseased conditions a tendency toward clot formation and the characteristics of the clot in the individual case may be an index as to the probable nature of the process. In cerebrospinal meningitis a clot-like mass may form with a cobweb appearance diffused throughout the liquid. In tubercular meningitis there is a tendency toward clot formation, which is centrally placed in the liquid with radiating fibrin filaments. In acute poliomyelitis there is no tendency toward clot formation.

The reaction of normal spinal fluid is slightly alkaline and is just in excess of one per cent of solid matter. On account of the alleged presence of glucose spinal fluid is capable of reducing Fehling's solution. The protein matter that is found in specimens of spinal fluid is globulin and albumose. Cholin, due to decomposition of cerebral spinal nerve matter, lecithen, lactic acid, phosphorous and the potassium salts that are also found are not so significant as the protein content. This protein matter is of great importance. There are numerous methods, but that of

Kaplan is of such simplicity as to appeal to the everyday observer. Into a test tube 1 cm. wide and 8 cm. long, is placed 5 cubic centimeters of the spinal fluid to be analyzed. It is heated until it boils up twice, then three drops of 5 per cent solution of butyric acid in normal salt solution are added, followed immediately by 5 cubic centimeters of a super-saturated ammonium sulphate solution and set aside for twenty minutes. Care must be taken not to mix the ammonium sulphate solution with the test tube contents. In twenty minutes the excess of globulin manifests itself by the formation of a thick, granular, cheese-like ring. When no ring forms the globulin content may be regarded as normal. For general purposes it may be said that with a significant cell count and the presence of a globulin ring, the presence of syphilitic disease of the central nervous system is to be strongly suspicioned, this presence to be further verified by the Wassermann test.

Dr. B. Lemchen of the Chicago State Hospital has devised a new test for the presence of globulin in the spinal fluid. Experimenting with tests for determining the presence of that substance he takes 5 cubic centimeters of spinal fluid, to which he adds an equal amount of 30 per cent normal sodium hydroxide, mixing the two fluids well together, and then adding a layer of an equal amount of picric acid, in water, so that the picric acid comes in contact with the fluid only. In the presence of globulin a white floculent precipitate appears a little above the point of contact. With this test it is claimed that in the absence of a precipitate no organic brain disease exists.

There are numerous cells encountered in a cytological study of the spinal fluid. In general, it may be said that in tubercular diseases of the brain and cord the lymphocytes are in excess. In cerebrospinal meningitis we, as a rule, encounter an excess in the polymorphonuclears. In acute poliomyelitis there is usually an excess in lymphocytes. In the latter two conditions, however, the leucocyte picture may vary but a bacteriological examination will usually clear up the situation. In general, it may be stated that in the event polymorphonuclears are in excess, there is an acute condition to deal with, and in the presence of an excess of lymphocytes there is a chronic condition to deal with. Cell counting is a procedure not to be neglected in an examination of the spinal fluid. We find normally from four to eight cells, generally lymphocytes, in each cubic centimeter of spinal fluid. In our work we use the Fuchs-Rosenthal method of cell counting. The difference between the Fuchs-Rosenthal counting chamber as compared with the ordinary hameocytometer chamber is that in the Fuchs-Rosenthal chamber we have an area 16 mm. square and 2-10 mm. deep, resulting in a count in an area of 16-5 mm. In the ordinary chamber we have an area 1 mm. square and 1-10 mm. deep resulting in a cell count in an area of only 1-10 of a square mm. The solution used in the Fuchs-Rosenthal method is methyl violet, 1 gm. glacial acetic acid, 2 gm. water q. s. 500 cubic centimeters. This fluid should be prepared from time to time and a few drops of chloroform added to prevent pennicilium formation, but even with this precaution the fluid will not keep well and should, therefore, be made in only one or two dram quantities. The staining fluid should be drawn into the capillary tube to the point one and the spinal fluid to the mark 11, giving a dilution of ten to one. A drop is then placed in the well of the counting chamber and cover slip applied. Count the cells in 256 of the small squares, multiply this by 11, and divide by 32, and this will give the number of cells per cubic centimeter. Any decided increase of cells over ten or fifteen per cubic centimeter should cause grave suspicion of the existence of organic brain disease.

Another method has been advanced which is probably more simple, and consists of placing equal parts of glacial acetic acid and

hydrogen peroxide in a test tube and adding thereto about as much benzidin as can be carried on the point of the blade of a pen knife. The solution is used in exactly the same manner as the Fuchs-Rosenthal solution, and with its use not only may white blood cells be identified but a fairly accurate differential count may be made. The red cells have a bluish appearance, the polymorphonuclear a yellowish appearance. The lymphocytes have a yellow nucleus with a blue ring surrounding. Plasma cells have a yellowish net work with blue granules.

It is important in withdrawing spinal fluid to guard against accident, and I can not impress you too strongly with the idea that dangers do exist in this operation, and that the only known means to guard against accidents is to carefully observe the patient's blood pressure with a reliable blood pressure apparatus during every moment of the operation. Should the blood pressure fall to any great extent suddenly, withdrawal of the spinal fluid should be immediately stopped and a liberal amount of normal salt solution introduced into the spinal canal and a hypodermic of ether administered immediately. It is, of course, important to observe the pressure of spinal fluid as any increase in pressure generally indicates a diseased condition in the brain, but absence of pressure in the spinal fluid does not absolutely rule out the existence of intracranial pressure, because in certain brain tumors, on account of prolapse of the cerebral structures in the foramen magnum, a condition of mechanical stoppage exists there which fails to give an increased pressure in the spinal canal. For everyday use it may be said that so long as the fluid flows in drops the pressure is normal, and if in a continuous stream it is abnormal. A simple means of accurately determining spinal fluid pressure is to use a glass tube marked in mm., and connected by a short rubber tube to the spinal puncture needle. This will give a spinal fluid pressure based upon water pressure and generally averages from 80 to 150 mm. Abnormal pressure may range from 200 to 800 mm., water pressure.

The bacteria present in the spinal fluid are the diplococcus of cerebrospinal meningitis, the pneumococcus and the tubercle bacilli. Of course, in cases of fracture of the skull we may find an accidental infection by any organism. In contrast to tubercular pleurisy, wherein tubercle bacilli are seldom if ever found, we find the organism in from 50 to 75 per cent of all cases of tubercular meningitis. Owing to the fact that there is practically no organic content in spinal fluid, it is rather difficult to precipitate organisms even with a bacterial centrifuge. A valuable point in this connection is the practice of adding equal parts of alcohol to the specimen of fluid to be centrifuged. This procedure contains both a precipitate of the protein content of the spinal fluid, and the precipitation naturally tends to mechanically carry with it any germ life that may be present. The staining methods are, of course, the same as in any other examination for tubercle bacilli. The presence of tubercle bacilli in such a large majority of cases of tubercular disease of the brain and cord and the frequent finding of milliary tubercules, post mortem, in the membranes of the brain and cord, leads to the assumption of primary tubercular diseases here.

Lange's colloidal gold test, a color reaction, simple in application and almost as reliable an instrument of precision as the Wassermann test is a procedure not to be omitted in the examination of spinal fluid, but owing to the elaborate paraphernalia and extensive practice necessary to successfully prepare the test solutions of gold, the technique can not well be carried out by the individual investigator in private practice. This, of course, applies to the Wassermann tests and therefore in cases of doubtful history or even in the face of negative findings our diagnosis can not be well established without a report from specimens submitted to a reliable serologist.

I trust that this discussion has not been

too long and tedious and too much of a tax upon your patience or a reflection upon your intelligence. The fact of working as we do in an isolated position among a population of 1,500 or more insane wards of the State of Florida and constantly encountering conditions of diseases in the brain and cord, possibly makes us more inclined toward enthusiasm for such matters than we would be under different surroundings.

THE INTERPRETATION OF THE WASSERMANN REACTION.*

W. P. Dey, M. D.,
and
Graham E. Henson, M. D.,
Jacksonville, Fla.

In the examination of sera from suspected and treated cases of syphilis upon which we have based our study for the preparation of this paper, we have used cholesterinized antigens prepared from extracts of human heart tissues together with acetone insoluble beef heart preparations. In the examination of two hundred and fifty sera from approximately two hundred patients, in no instance has the deviation of complement varied to any extent with the preparation of antigen employed.

In common with other investigators, we have determined that a large number of undoubted cases of primary syphilis give negative Wassermanns. A review of the literature discloses a wide variation in the percentage of negative reactions in positive clinical cases as determined by various investigators. Thus, in England, Bassett-Smith reports 76 per cent positive in 183 cases; in this country Noguchi and Kaplan 90 per cent positive in 208 cases; in Germany, Hoehne but 28 per cent positive in an unstated number of cases, and in Sweden, Boas 73 per cent positive in 76 cases, and Markus 75 per cent positive in 120 cases. Primary cases within the first week or ten days usually give negative reactions. In secondary cases we do not find quite as wide a variation in the percentage of positive reactions found by various investigators. Thus of the six authors just cited, Bassett-Smith reports 94 per cent positive in 407 cases, Noguchi and Kaplan report 90 per cent in 478 cases, Hoehne 79 per cent in an unstated number of cases, Markus 91 per cent in 250 cases and Boas 90 per cent in 2,754 cases.

We would especially emphasize the fact that a positive Wassermann reaction should be taken as prima facie evidence of syphilitic infection of either congenital or acquired origin, bearing in mind, however, that positive Wassermanns have been secured in leprosy, yaws, in the febrile stage of malarial infections and in psoriasis. On the other hand, many cases of undoubted syphilis will at various times during the disease give negative reactions. This is especially true of cases under treatment.

The following cases of clinical secondary lues giving negative Wassermanns, the diagnosis later being confirmed by positive reactions, are of interest:

Case I. J. L. Mc., male, single, age 28, a salesman, referred by Dr. Van Landingham of Ft. Pierce, February 15, 1915. Denies venereal history. Presents a typical syphilitic alopecia. Peridental ulceration around second lower molar. No other symptoms. Wassermann and Noguchi tests negative. He was given a local application for the scalp and three grains of sodium cacodylate hypodermically three times a week for four weeks. April 2nd, Wassermann 3 plus positive. On April 12th he was given .6 gm. salvarsan intravenously, a week later .9 gm. neosalvarsan, and on April 24th was put on protoiodide of mercury for six weeks, July 5th, ten weeks later, he still gave a 3 plus Wassermann. He was continued on protoiodide of mercury for periods of six weeks with two-week intervals until December 25th. On February 2, 1916, Wassermann negative.

Case II. J. R., male, married, age 26,

---

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

referred by Dr. D. F. Smith of Gainesville, March 1, 1913. Denies venereal history. Presents an iritis of two weeks duration. No other symptoms. Wassermann negative. Local treatment for three weeks with but little improvement. March 22, 1913, provocative Wassermann (.2 gm. salvarsan) 3 plus positive. Decided improvement followed and a full dose .6 gm. salvarsan was administered on April 10th followed by mercurial inunctions for two periods of three weeks each, with an interval of three weeks. On July 2nd he was placed on protoiodide of mercury for four six-week periods with two-week intervals. June 1, 1915, he returned with rheumatic pains and general syphilitic toxic symptoms. Wassermann 4 plus positive.

The value of the Wassermann reaction as a routine procedure in all cases presenting difficulty in diagnosis has been attested by many authors. The following cases coming under our observation having no objective symptoms of syphilis but giving positive Wassermanns, exemplify the advisability of such routine examinations:

Case III. B. G. B., single, age 24, referred by Dr. C. P. Rogers of Jacksonville, February 2, 1911. History of chancre three years previous. No objective symptoms. Wassermann 4 plus positive. Salvarsan .6 gm. was given intravenously on March 2nd, and repeated April 1st. Ten days later he was given salicylate of mercury intravenously three times a week for three periods of six weeks with two-week intervals. On October 2nd, a negative Wassermann was secured—a similar reaction on June 4, 1912, and again as late as March 21, 1915.

Case IV. R. H. C., single, age 31 (candidate for marriage) referred by Dr. Roy Chalker of Lake City. The patient gave a history of a slight sore on the penis eighteen months previous. No objective symptoms other than a general adenopathy. Wassermann reaction 4 plus positive. He was given .6 gm. salvarsan intravenously every two weeks until three injections had been administered, followed by two three-week periods of mercurial inunctions; mercurial stomatitis produced during each period. On January 1, 1913, the serum gave a 2 plus positive Wassermann. On January 20th another injection of .6 gm. salvarsan was given, followed by a six-week period of intramuscular injections of salicylate of mercury. From May 1, 1913, to December 1, 1913, protoiodide of mercury was administered by mouth for periods of six weeks with two-week intervals. On February 1, 1914, a negative Wassermann was secured, again during the following September and in August, 1915.

The value of the Wassermann reaction as a diagnostic aid has for some years been recognized by all clinicians. It is, however, of especial value in checking up the effect of treatment. Even before the days of salvarsan many active cases of lues apparently got well under treatment, and since the introduction of this therapeutic agent, the changes in both subjective and objective symptoms of active cases is often marvelous. In spite, however, of the marked improvement these cases undergo and their belief that they are completely cured, we find many such that even following the most intensive and insistent treatment both with salvarsan and mercury, still give positive Wassermann reactions, thereby showing the danger of discontinuing treatment. That many cases can not be reduced to negative reactions, we have no doubt. The following cases are illustrative of this type of infection:

Case V. L. B., dairyman, age 26, presented himself May 20, 1913, suffering with a secondary lues. He was at once given .6 gm. salvarsan intravenously, the same dose being administered ten days later, and again after a period of fifteen days. With a few days' rest he was placed on intramuscular injections of salicylate of mercury three times a week for periods of six weeks each, with two-week intervals. On June 4, 1914, he gave a 2 plus positive. On October 10, 1914, he was given .9 gm. neosalvarsan intravenously followed by three weeks of inunc-

tion of mercury to the point of salivation. The patient was lost to observation until January 13th of the present year, when he presented himself with syphilitic ulcers on the tongue and tonsils, with a perforating ulcer of the soft palate, and a papular eruption which was general. His serum at this time still gave a 4 plus positive Wasser--mann.

Case VI. J. W. T., age 32, single, presented himself for diagnosis July 1, 1912, giving a history of syphilis two years previous. No objective symptoms. Wassermann 2 plus positive. He was given two doses of .6 gm. salvarsan intravenously at thirty-day intervals, followed by three six-week periods of protoiodide of mercury pills by mouth, and one three-week period of mercurial inunctions. March 2, 1914, his serum still gave a 2 plus positive. On March 5, 1915, he underwent a nephrectomy for tuberculosis of the left kidney. On August 10th his serum remained uninfluenced, still giving a 2 plus positive.

Case VII. W. H. L., police officer, age 23, single, presented himself with a primary sore and mixed infection, later followed by typical secondaries. He gave a history of mercurial idiosyncrasy, stating that one grain of calomel had produced marked ptyalism. On two separate occasions during the course of treatment this was proven by such a marked reaction after taking one grain of salicylate of mercury intramuscularly that he had to consult a dentist on both occasions. From April 12, 1914, to June 6, 1915, a period of fourteen months, he was given two .6 gm. salvarsan and six .9 gm. neosalvarsan intravenous injections. On August 3, 1914, Wassermann was a 2 plus positive. From September 6th to December 1st he was given cacodylate of sodium in 3-grain doses three times a week. On January 10, 1915, he gave a 4 plus positive Wassermann.

It is not unusual for treated cases of syphilis giving negative reactions, after a lapse of time with or without treatment, to again become positive. It is therefore not a safe procedure to discharge a treated case of syphilis giving a negative Wassermann until several negative reactions have been secured over a period of some considerable time. We have deemed it wise to test sera of all apparently cured cases three months after all treatment has been withdrawn, to repeat the test three months later, again in six months and to submit sera to a final examination eighteen months after the first negative reaction is secured. In the event that a positive reaction is secured at any time during this interim, treatment, the type depending upon the circumstances in the case, is again instituted and the routine examination of the serum is again taken up. The following cases are typical examples of treated cases giving negative reactions, later becoming positive, demonstrating the cure incomplete. Upon being given further treatment a series of negative reactions was secured and the patients discharged cured:

Case VIII. R. H., single, clerk, age 27, came under observation September 7, 1914, with primary and secondary lesions of six weeks duration. The following day he was given .6 gm. salvarsan intravenously, the dose repeated ten days later and on the 28th he received .9 gm. neosalvarsan. This was followed by four six-week periods of salicylate of mercury intramuscularly with a few days intervals of rest. On May 2, 1915, he gave a negative Wassermann. The following August he had recurrence of mucous patches, his serum giving a 2 plus Wassermann. .9 gm. neosalvarsan was administered intravenously at once, followed by mercurial inunctions for three weeks. Commencing September 1, 1915, and continuing for six weeks he was given 5 grs. of cacodylate of sodium three times weekly. On January 3rd of this year he gave a negative Wassermann.

Case IX. R. S., age 26, single, presented himself December 3, 1914, giving a history of simple abrasion near corona glandis six

weeks previous, a diagnosis having been given of "hair-cut," and treatment administered consisting of antiseptic powders, the lesion disappearing in a few days, leaving a small elevation. Upon examination, he presented a scattered papular eruption over the chest, arms and thighs, an inguinal adenitis and several small ulcers of the oral mucosa. No subjective symptoms. The serum gave a 4 plus Wassermann. He was given .4 gm. salvarsan at once, .6 gm. a week later, .9 gm. neosalvarsan in ten days, and on January 4, 1915, .6 gm. neosalvarsan. On January 15th he was placed on salicylate of mercury intramuscularly, continuing for three periods of six weeks each with two weeks intervals between periods. On July 1st he gave a negative Wassermann, on September 2nd his serum returning to a 2 plus positive. Upon being placed on cacodylate of sodium, receiving three grains every other day for six weeks, his serum became negative on November 11th. A similar reaction being secured on February 6th of this year.

Conclusions.

1. Positive Wassermann reactions should be taken as prima facie evidence of syphilitic infection.

2. Many cases of syphilis will, at various times during the course of the disease, give negative Wassermann reactions.

3. A Wassermann test should be conducted on all obscure cases as a routine procedure.

4. The Wassermann reaction is invaluable as an agent for determining the effect of treatment in syphilis.

5. Many cases of syphilis are incurable.

6. No case of syphilis should be discharged as cured until at least four negative Wassermann reactions have been secured, the last negative to be at least eighteen months after treatment has been discontinued.

THE DIAGNOSIS AND TREATMENT OF SYPHILIS.*

JULIAN E. GAMMON, S. B., M. D.,
Jacksonville, Fla.

Syphilis is primarily a disease of the blood vascular system, but the infecting organism, the spirochæta pallidum, may attack any tissue or organ of the body. In fact it plays an important role as an etiological factor in diseases of the nervous system, heart and aorta, liver, kidneys, lungs, stomach, eyes, ears, nose, bones, joints, muscle, pancreas, etc., and it may simulate almost any organic disease from ringworm and eczema to tumors, benign and malignant, typhoid, tuberculosis, malaria, etc.

In order to diagnose syphilis we have to keep it constantly in mind as one of the possibilities in the diagnosis which must be eliminated by evidence. Primary and secondary syphilis is easily diagnosed. The organism can be demonstrated in a large percentage of chancres, probably 95 per cent and possibly 100 per cent, providing no local treatment has been applied. The Wassermann is nearly always negative during the first week of the initial sore, but during the fourth week practically all cases give a positive reaction.

It is the later results of syphilis that I am particularly interested in in this paper and I shall illustrate by case histories the diagnosis and treatment of the disease.

The febrile type of syphilis is not infrequently looked upon as typhoid, tuberculosis or malaria. The most interesting case of this type I have seen was S. R., a mill foreman, age 42. He came in complaining of having had fever every day for eleven months. He stated that at one time it was thought that he had typhoid, and later he was diagnosed tuberculosis and malaria. He had his primary twenty years ago and was treated with one course of mercury at Hot

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

Springs. On examination he had a temperature of 101.6 and a few ulcer scars on his shins. The physical examination was otherwise negative. The white blood count was normal and there were no malarial parasites found. Blood was taken for Wassermann and it was strongly positive. As a precaution I gave him 25 grains of quinine solution per day while I was waiting for Wassermann result. The quinine did not stop his fever, but mercury, iodides, and salvarsan did, and his general condition improved markedly.

Syphilis ranks fourth as an etiological factor in organic diseases of the heart and aorta. Myocarditis and aortitis with involvement of the aortic valves are the most common syphilitic lesions causing circulatory disturbances. The first indication of the disease of the heart may be a pericarditis, however, as in this case. A man, 56 years of age, came in complaining of pains over his heart and fever. He was the father of nine children, his wife had had two miscarriages and there was no history of syphilis. His examination was negative excepting that he had a beautiful systolic and diastolic friction rub over the precordium and a strongly positive Wassermann. After four injections of ¼ gr. doses of biniodid his friction rub disappeared and his temperature approached normal. He was given a course of 30 injections of biniodid, and potassium iodide by mouth. Later, he returned for a second course of mercury and at this time his Wassermann was again positive, and still later he was given salvarsan.

Frequently, in diagnosing syphilis of the heart, we have to observe the patient over a period of several months before we can get sufficient evidence to base the diagnosis on, as in the following case. M. L., age 52, laborer, came in with cardiac decompensation. There was no valvular lesion and his blood pressure was normal. The heart was markedly hypertrophied and dilated and there was nothing in his history to account for it excepting possibly manual labor. His Wassermann was negative. He was given, however, a course of mercury and iodides after his heart compensated, and he seemed to be improved and was discharged. Later, he came into the hospital again with decompensation, another Wassermann was done and this time it was strongly positive. His mercury treatment was continued and later examinations of his blood gave positive reactions. The treatment possibly had something to do with making the reaction become positive.

In syphilitic aortitis we may get a history suggesting disease of the aorta and we may not. The most common symptoms are pressure on the chest, paroxysmal dyspnea, paroxysmal tachycardia, and anginal pains in the chest and down the arms. The physical signs are the metallic second sound when the root of the aorta is involved, widening of the mediastium to percussion, evidence of elongation of the aorta by pulsation in the episternal notch and supra clavicular fossa, widening of aorta as shown by X-ray and finally a positive Wassermann.

A later stage of syphilitic aortitis is aneurysm and you are familiar with its signs and symptoms.

As an example of syphilitic aortitis with involvement of the aortic ring and valve, together with myocarditis, this case may be of interest, viz., a man aged 49, machinist, came in complaining of attacks of shortness of breath and excruciating pains in his heart and down his arms, but mainly the left, and he felt as if a heavy weight was on his chest. His examination was negative excepting for the following evidence: He was dyspnœic and had repeated attacks of anginal pain which were relieved with amyl nitrite, mediastinal dullness was increased, pulsation in the episternal notch and supraclavicular fossa, his heart was enlarged, blood pressure normal, the aortic second sound had a metallic ring, and there was a diastolic murmur along the left sternal border when he exerted himself, Wassermann was strongly

positive, X-ray photograph showed aorta dilated and elongated. He died in one of his anginal attacks. At autopsy the characteristic puckering up of the intima of the aorta was found and the coronaries showed an advanced grade of arteritis. The myocardium had an increase of fibrous tissue and round cell infiltration about the blood vessels — a syphilitic myocarditis with syphilitic aortitis.

Longcope reported a number of cases of syphilitic aortitis and his results show that the average length of life was less than two years in about 70 per cent of the cases. He treated his cases with salvarsan and iodides. Mercury and iodides in my experience give the better results in the treatment of syphilis where there are marked arterial changes and there are practically always changes in the arterial system in late syphilis. I shall bring this point out in the treatment of syphilis of the nervous system.

The central nervous system is affected in a large percentage of the cases of latent syphilis as well as in active syphilis. Now, how are we going to recognize early syphilis of the nervous system? The most common symptom of brain syphilis is headache or perhaps migraine and the condition is not usually investigated till some distressing symptoms arise. Dizziness is also a common symptom. The other symptoms may be insomnia, emotional disturbances as crying spells, deafness, disturbances of vision, mental disturbances, neurasthenia, weakness or paralysis of the cranial nerves, loss of smell and taste, epileptic convulsions, etc.

In syphilis of the cord the first symptom may be visceral crisis which may be mistaken for gastric ulcer, gall stones, etc. Other symptoms may be pains in the back and down the legs, paralysis of voluntary muscles, disturbances of sensation, disturbances of motion, ataxia, disturbances of the bladder and rectum and so on.

The only way we can diagnose syphilis of the nervous system is to investigate the symptoms and signs of disturbances of this system when we are given the cue by making a complete physical examination, by testing the functions of the various cranial nerves, including examination of the eye grounds, testing reflexes, motor power, sensation, etc. Another point in the examination of vital importance is the lumbar puncture and a pipette cell count of the spinal fluid and the Wassermann of the fluid and blood.

Now I want to report a few cases showing the problems of diagnosis:

Case I. A woman, age about 48, married, had been treated for two months in a hospital for gastric ulcer. Her main symptoms had been attacks of severe pain in the epigastrium and vomiting. One month after she was discharged she was admitted to Lakeside Hospital in a semi-comatose condition, markedly emaciated, vomited everything taken by mouth, and her color was dark yellow or brownish, pupils reacted sluggishly to light, blood pressure 85 systolic, she was weak and could scarcely turn over in bed. Abdomen was distended. An enema was given and was not retained, which suggests paralysis of the sphincter. She voided involuntarily. The deep reflexes were more active in the right leg than the left and there was a positive Babinski, indicating spinal cord changes. Now, what are our possibilities? The history of a diagnosis of gastric ulcer together with the vomiting, emaciation, anæmia and the spinal cord signs suggested that it might be a cancer on an ulcer base with metasteses to the nervous system. The brownish pigmentation, emaciation, low blood pressure, marked weakness and gastro-intestinal symptoms suggested Addison's disease with a tuberculous focus in the cord. The marked anæmia, spinal cord changes and gastro-intestinal symptoms suggested pernicious anæmia. Syphilis may, however, wear the crown. How was a definite conclusion reached upon evidence? A lumbar puncture was done and over two hundred lympho-

cytes per cmm. were found in the fluid. The Wassermann was strongly positive in both the blood and spinal fluid, and thus the diagnosis of cerebrospinal syphilis was made. She was given biniodid of mercury intramuscularly, beginning at ¼ gr. and gradually increasing to ¾ grs. daily. She was also given potassium iodide grs. xx three times a day. Her condition improved rapidly, she gained a pound a day on the treatment and within three weeks she was able to walk around the ward.

Case II. Mrs. S., age 56, was admitted to the hospital in 1908 with a diagnosis of acute Bright's disease, with œdema. She improved and was discharged. Admitted again in 1910, diagnosis of chronic Bright's disease with normal blood pressure was made and also a note was made in the physical examination that there were some sensory disturbances in the extremities. In 1912 she was admitted again. I was interned on the ward at that time. She was sent in with a diagnosis of diabetes mellitus with diabetic tabes. She had 5 per cent sugar in her urine. On examination she was thin, pupils sluggish, there was evidence of optic neuritis, deep reflexes were absent, there was hypotonus of the muscles, proximal ataxia, disturbances of sensation. I did a lumbar puncture to rule out syphilis. The fluid showed 90 cells per cmm., Wassermann was strongly positive on blood and spinal fluid. Diagnosis tabes dorsalis, and I also thought that the diabetes could be due to a syphilitic pancreatitis. One year later she died, autopsy diagnosis was syphilis, tabes dorsalis, chronic pancreatitis of syphilitic origin, chronic nephritis.

Case III. A woman whose husband had had syphilis became acutely ill and was diagnosed brain fever, according to her statement. She was admitted to the hospital some time afterwards complaining of headache and marked thirst with polyuria. Lumbar puncture was done, spinal fluid showed increased cell count and Wassermann was strongly positive on blood and spinal fluid. The diagnosis of cerebrospinal syphilis was made and both the headache and polyuria, which may be termed diabetes incipidus since there was no lesion of the kidney, cleared up under mercury treatment.

Case IV. A salesman, about 40 years of age, had always been healthy and had never had a primary. Suddenly, out of the clear sky, he lost his sense of taste and smell and had an uncinate gyrus fit. Lumbar puncture was made, cell count was markedly increased, Wassermann was strongly positive in blood and spinal fluid. He improved under mercury and iodides. He was able to take up to one grain of biniodid daily and was given thirty injections in the first course of mercury, beginning at ¼ gr. and increasing dose up to 1 gr.

Case V. A salesman, age 45, who had had intermittent headaches for a short period, suddenly had an epileptic convulsion. He was admitted to the hospital, lumbar puncture was done, fluid cloudy, increase in lymphocytes and Wassermann was strongly positive in blood and spinal fluid. Under several courses of mercury idodide injections his cell count was markedly reduced, Wassermann became weakly positive in the blood and spinal fluid. The mercury had pulled him down physically so we gave him small doses of salvarsan. He gained weight and has had no more convulsions.

Case VI. An Italian, age 29, teacher, had had unilateral headache which was very severe, gradually he noticed that he was losing his vision in the right eye. He was admitted to the hospital, complaining of terrific headache. There was marked exopthalmos of the right eye, complete blindness, ptosis of lid and paralysis of the eye muscles, reflexes were gone in right eye, but pupil reacted consensually when light was flashed into left eye. Lumbar puncture was done and fluid was clear, no increase in cells, Wassermann was strongly positive in blood and spinal fluid. Under

mercury and iodide treatment his headaches cleared up, exopthalmos disappeared and he regained the use of his eye muscles. Light perception reappeared to a slight degree, the nerve head showed optic atrophy.

Case VII. E. K., female, age 16, occupation factory work. She was brought into the hospital with a paralysis of both legs, marked lordosis as is seen in lumbar Pott's disease, interstitial keratitis, all reflexes of legs gone excepting there was a positive Babinski. Lumbar puncture, cloudy fluid, 200 cells per cmm. Wassermann was strongly positive in blood and spinal fluid. On mercury and iodide treatment she regained the use of her legs, the spinal fluid showed 12 cells per cmm., the last puncture I made, the Wassermann was weakly positive. The mother had tabes dorsalis.

Case VIII. Mrs. L., age 22, orphan, complained of pains in back for a year. Suddenly, one day while getting out of the buggy, her legs gave way and she fell. She was brought to Jacksonville and at the time I saw her there was marked mental cloudiness, paralysis of both legs, paralysis of the bladder and rectal sphincters. The lumbar spine presented the appearance of Pott's disease. There were no reflexes in the legs, not even a Babinski. Sensation was gone excepting subjective pain. Lumbar puncture was done, the fluid was amber colored and coagulated in mass, there was a slight increase in cell count, Wassermann was strongly positive in blood and spinal fluid. I gave her a course of thirty biniodid injections and potassium iodide gr. xx three times a day. She regained bladder and rectal control and at the end of ten weeks she could stand on her feet. She returned eight weeks later for another course of mercury. At the end of this treatment I gave her 0.3 gram salvarsan as a tonic. Last December she returned for a third course of treatment. She walked several blocks to my office every day and said she could walk as well as she could before her illness, but she was unable to run on account of a degree of spasticity. Her Wassermann is still positive.

Case IX. J. M., male, age 32, had primary ten years ago. Complains of inability to walk or stand still and lightening pains down legs and gastric crises. On examination he had Argyi-Robertson pupils, marked Rhomberg, absent knee kicks, Wassermann of blood was strongly positive. He refused lumbar puncture. After 15 injections of biniodide, he was able to stand with eyes closed and pains had decreased. He is continuing the injections.

Case X. M. S., age 39, complained of paralysis of both legs of three weeks' duration and difficulty in voiding. He had a primary lesion 20 years ago. Physical examination was negative excepting for the following evidence: he was unable to stand and had no voluntary control of his legs. Knee and Achilles reflexes absent, Babinski, Oppenheim and Gordon reflexes absent. There were marked disturbances of sensation. Pupillary reflexes normal, eye grounds negative. On lumbar puncture the spinal fluid was clear, cell count 5 per cmm., Wassermann was strongly positive in blood and spinal fluid. After thirty injections of biniodide of mercury, he regained sphincter control, the use of both legs and walks without difficulty.

In the treatment of visceral syphilis with arterial changes and gumma formation the best functional results can be obtained by intramuscular injections of biniodide of mercury and potassium iodide by mouth. You can, however, get some results with mercury given in almost any form, but I have obtained the best results with the biniodide given intramuscularly daily. The initial dose is usually gr. ¼ and every few days I increase the dose from a 1-4 to 1-3, 1-2, 2-3, 3-4, 1 grain or until toxic symptoms arise. After finding the patient's tolerance it is an easy matter to keep within the toxic dose.

The treatment of primary and secondary syphilis in most cases is a problem of de-

stroying the spirochætæ without damaging the host and salvarsan intravenously followed by hydrargyrum intramusclarly give the best results. In the visceral forms of the disease, however, the blood vessels are always involved and when the vessels become obliterated we have the formation of a gumma; that is necrosis of the tissue with round cell infiltration, and through the process of repair we get an overgrowth of connective tissue and an absorption of the necrotic tissue. Salvarsan is much more likely to increase the vascular injury in the arterial type of syphilis and the organ involved lose a greater amount of its blood supply and the ultimate functional result decreased, where as with mercury and iodides the vascular condition is improved, the blood supply increased and the gumma is removed leaving a scar perhaps, and the functional activity of the tissue that is not destroyed is regained. This is well demonstrated in the three cases of syphilis of the cord I have just called to your attention.

409 Professional Building.

A FEW FACTS CONCERNING COMPLEMENT.

J. R. Bean, M. D.,
Jacksonville, Fla.

In discussing this subject it becomes necessary to say a few words concerning immunity and the various theories advanced to explain its production.

Immunity.

Immunity is that which prevents a disease organism from gaining a foothold in the animal body or neutralizes their harmful products or actually destroys the parasite. Immunity is either inherent or acquired, and acquired immunity is either natural or artificial. Examples: Inherent or racial immunity is seen in the Algerian sheep which are immune against anthrax, whereas other sheep are highly susceptible. Acquired immunity is seen in a case of smallpox with recovery, this being a natural acquired immunity. Artificial acquired immunity is seen in vaccination against smallpox. Probably a better classification would be active and passive immunity. Under this classification active immunity embraces any condition which leads to the formation of antibodies by the individual itself. As examples of this, we have vaccination against smallpox and typhoid fever. Passive immunity is any condition in which antibodies themselves are injected into the individual to protect it from a disease. Well-known examples of this form are seen in injections of diphtheria and tetanus antitoxins.

The immunity of an individual depends upon the production in the body of the individual of certain properties known as antibodies or the injection of antibodies into the individual. Antibodies are classified as follows: 1. Antitoxins. 2. Anti-ferments. 3. Agglutinins. 4. Precipitins, and 5. Cytotoxins. Cytotoxins include hemolysins, spermotoxins, nephrotoxins, bacteriolysins, etc. These bodies consist of complement and immune bodies or amboceptor.

Theories of Immunity.

1. The retention theory of Cheavau, which depends upon the production by the bacteria of a substance which, when liberated into the blood stream in sufficient quantity, will prevent their further growth.

2. The exhaustion theory of Pasteur, depending upon the supposition that available food substances for the growth of bacteria which are present in the blood stream, are finally used up by the invading organisms and finding no more available pabulum, they die.

3. The phagocytic theory of Metchnikoff. He believes that the leucocytes are responsible for the destruction of bacteria. He divides the various cells into microphages which include the polymorphonuclear leucocytes and are more active in acute infections and macrophages which include endothelial cells, mononuclear leucocytes and embryonic connective tissue cells which are more active in combating chronic infections.

He explains the presence of apparently free immune bodies in the blood serum as being due to the activity of leucocytes. This is also known as the cellular theory and is essentially of a physical character.

4. The side chain theory of Ehrlich. He conceives the cell as being made up of a central or nuclear portion and a peripheral portion which contains projections, called by him, receptors, each of which is capable of uniting with certain food or toxic substances with which they may come in contact. This theory explains not only metabolism but also resistance to infection. The receptors are divided into three orders. The receptors of the first order consist merely of a haptophore portion which is capable of uniting with a simple substance, after which union the cell is either destroyed or is capable of utilizing the attached molecule. Receptors of the second order are made up of a haptophore portion and a toxophore portion and are for the purpose of combining with more complex molecules. The substance combining with the haptophore portion of a receptor of the second order is utilized by the activity of the toxophore portion of the receptor. It will be seen that cells having receptors of the first and second order are capable in themselves of utilizing or destroying molecules which attach themselves to them. Receptors of the third order are for the purpose of utilizing still more complex molecules. They consist of two haptophore portions, one which is capable of attaching the molecule and the other which is capable of attaching the complement. After this union the cell is then capable of utilizing the attached molecule through the agency of the complement.

Ehrlich's theory depends upon the overproduction theory of Weigert who assumes that when any injury occurs to an organism, nature will not only repair the injury but will produce an excess of the repair material, as for example, the production of scar tissue. It will be seen then that when a substance is introduced which will destroy a receptor, the cell will not only replace this receptor, but will go ahead and manufacture an excess. These will then be pushed off the cell into the blood stream. Antibodies are therefore free receptors. Antitoxin consists of receptors of the first order. Agglutinins and precipitins are free receptors of the second order, and cytotoxins are receptors of the third order. Erhlich's theory is also known as the humeral theory and is essentially a chemical one.

Complement Fixation Tests.

Complement fixation tests are based on the well-known fact that antigens and their specific antibodies will combine with complement, this reaction being invisible. We therefore add a hemolytic system composed or red blood cells and their amboceptors as an indicator. The fact that no Bordet-Gongou reaction can be performed without complement, makes a discussion of this substance of paramount importance.

History.

In 1876 Landois described the hemolytic action of fresh blood serum on the red blood cells of animals of certain species. Traube and others brought out the fact that animals could withstand the injection of comparatively large amounts of septic material. Between the years 1886 and 1890, Fodor, Nuttall, Buchner and others finally proved the bactericidal properties of fresh blood serum. Buchner showed that the active principle causing lysis was very labile and could be inactivated by heating to 55 C., by dialyzing or by diluting with distilled water. He called this active principle alexin. In 1899 Bordet discovered the fact that alexin was composed of two substances, a thermostable sensitizing substance, called by him, substance sensibilitrice and a thermolabile substance which he designated as alexin. Later in the same year Ehrlich and Morgenroth confirmed Bordet's work, and to the thermostable substance gave the name of amboceptor and to the thermolabile the name addiment or complement. Bordet adhered to the term alexin, but does not

consider it as originally used by Buchner to cover both substances.

Buchner believed complement to be a true secretory product of the leucocytes. Metchnikoff does not believe that complement exists preformed in the blood serum, but that it is only liberated upon the disintegration of the white cells. Hankin believed that the eosinophiles are responsible for the production of complement. In favor of Metchnikoff's view is the fact that leucocytic extracts are known to be bactericidal and can act without the presence of neutral salts. However, cholera vibrios and typhoid bacilli are scarcely affected by leucocytic extracts, also anti-cholera and anti-typhoid sera will not be reactivated when leucocytic extract is added to them. This experiment seems to show that leucocytes, *per se*, can not produce all the complements, and are therefore not the sole source of complement production. Complement occurs in blood plasma and is increased to a slight extent as serum is left in contact with the blood clot. This is due, no doubt, to the continual disintegration of leucocytes and is another argument in favor of Metchnikoff's view. According to Muller and Dick, the liver, pancreas and other organs may be regarded as sources of complement. The evidence, however, points to the leucocytes as being the chief source of complement, the liver being concerned in its production only through its activity in blood destruction.

Nature.

The true nature of complement is unknown, but we cannot pass this subdivision of the discussion of complement without mentioning the different views on the subject and without citing, in a brief way, the experiments in support of each. Metchnikoff believes complement to be an enzyme and gives to it the name of cytase. Its action in the various bacteriolytic and hemolytic tests, certainly suggests very strongly that it possesses zymotic properties, *i. e.*, it cannot act alone, but only through the preparatory action of an amboceptor, just as an enzyme cannot act without a proenzyme or zymogen. The chief objections to this view were the facts that a definite quantitative relationship seemed to exist between the complement and the amount of cells upon which it could act, and that it did not digest the stroma of the red blood cells. However, Kiss in 1909 showed that the quantitative relationship between complement and cells is not a strict and regular one, but depends rather upon the concentration of the complement. Liefmann and Cohn claim that the fixation of complement during hemolysis is not due to its union with the sensitized cells, but is due to fixation by the end products of the reaction, principally the stromata of the red blood cells. Observations by Dick seem to point to the fact that the stroma of the red blood cells is digested and that this leads to the liberation of hemoglobin. These experiments lend further support to the view that complement is an enzyme. Hankin, Buchner, Kossel and Vaughn believe complement to be a nucleo-proteid. In fitting complement into his side chain theory Ehrlich conceives it to be of simple structure, similar to that of toxin, consisting of a haptophore portion capable of uniting with the complementophile haptophore of an amboceptor, and a toxophore group, the lytic portion, called by some authorities the cytophile or zymophore group. The zymophore group is very unstable and is destroyed by heating to 55° C. for thirty minutes. Serum thus treated is said to be inactivated. The same change takes place when serum is allowed to stand at room temperature for 48 hours. Complement, after having the zymophore group destroyed, is known as complementoid, a substance which is analagous to toxoids and agglutinoids. Noguchi has shown that soaps, isolated from blood and other tissues, and that the salts of fatty acids, especially the cleates, are hemolytic. Kyes found that amboceptor could be activated not only by the complement in the blood serum but also by some substance within the erythrocytes

themselves. This substance he called endocomplement, and in an endeavor to discover its nature, he isolated from the red blood cells lecithin and cholesterin in pure form. He found that lecithin was hemolytic and cholesterin anti-hemolytic. Noguchi and Liebermann's work seems to show that complement is a mixture of albumin and lipoid.

Complement Splitting.

This is carried out by treating the serum with HCl (Sachs,) CO_2 gas (Liefman), acid or alkaline phosphates (Michaelis and Skwissky, or by dialyzing against distilled water (Ferrata). If the splitting is successful, one part is supposed to be contained in the globulin fraction and the other part in the albumin fraction. The one in the globulin fraction is known as mid-piece, and that in albumin fraction as the end-piece. The mid-piece is inactive and the end-piece is active. In other words, the mid-piece corresponds to the haptophore portion of the complement and the end-piece to the toxophore. Bronfenbrenner and Noguchi, however, by removing the inhibitory action of the acids and alkalis used in the process, have shown that both fractions contain parts of the complement and that this phenomenon is nothing more or less than inactivation.

Multiplicity of Complement.

At the present time this subject is not of great practical value, but theoretically it would seem to be of great importance and once proven satisfactorily, no doubt, the added attribute of specificity might be given to complement. Bordet adheres to the unity of complement on the basis that the same complement can activate both a bacteriolytic and a hemolytic amboceptor, and furthermore that an excess of either amboceptor will absorb all the complement. Metchnikoff claims two complements or cytases as he calls them. One a bacteriolytic and the other a hemolytic cytase. He believes that the bacteriolytic cytase is derived from the microphages or the polymorphonuclear leucocytes and that the hemolytic cytase is derived from the macrophages which include endophelial cells, mononuclear leucocytes and embryonic connective tissue cells. Ehrlich, Morgenroth, Sachs, Wassermann, Wechsberg, Marshall and others believe that many complements are present, but that the amounts of each may vary in different sera. The fact that complement is so labile makes this difficult to prove, but they advance the following observations:

1. A serum which acted with different hemolytic amboceptors was digested with papain (20 c.c. of serum and 3 c.c. of a 10-percent solution of papain) at incubator temperature for 45 minutes. The complement for one amboceptor was destroyed.

2. This same serum was also treated with soda solution (10 c.c. of serum with 1 c.c. of 7-percent solution of soda) for one hour. Some complements were destroyed and others weakened.

3. Different red blood cells were sensitized with homologous amboceptors and then added in varying amounts and for varying lengths of time to fresh blood serum. Some complements were destroyed and others weakened.

4. By means of anticomplements, different complements can be demonstrated in one serum.

5. An anticomplement for one complement present in guinea-pig serum was found in ascitic fluid.

Deviation or Deflection of Complement.

This can be shown by combining normal serum plus bacteria with varying amounts of amboceptor, when it will be seen that no lysis occurs until a certain amount of amboceptor has been added and that amounts larger than this cause a diminution of lysis. No satisfactory explanation of this phenemonen has, up to the present time, been advanced. Neisser and Wechsberg explain it in the following way: Complement in the presence of an excess of amboceptor combines not only with amboceptor and antigen, but also with free amboceptor. In other

words, when more amboceptors are introduced than can be taken up by the antigen present some of the complement attaches itself to the free amboceptors and consequently lysis is diminished. This theory is untenable because complement is not able to unite with free amboceptor.

Anticomplement.

The injection of complement or complementoid into an animal will produce anticomplement. This may be demonstrated by treating a complement with its anticomplement, when it will be found that the serum will be inactive. Auto-anticomplement may render the subject much less resistant to a certain infection, as complement necessarily plays an important part not only in the destruction of bacteria, which may enter the host, but also in the digestion and solution of other albuminous bodies. Auto-anticomplement has never been observed for the reason that an organism does not contain receptors for complement present in itself. However, the injection of serum from an animal containing complement which is almost identical may lead to its production. Muller, in 1901, discovered anticomplement in normal sera. Besredka in the same year demonstrated anticomplement in the blood of man, rabbit, guinea pig, fowl and goose. Wassermann has produced anticomplement by injecting the washed leucocytes of rabbit into guinea pigs.

Complement Fixation.

In routine complement fixation work the serum of guinea pigs is used as complement. The blood is obtained either by bleeding the animal to death, if a considerable amount is desired, or by etherizing a guinea pig and drawing the blood direct from the heart. This latter method is, of course, the method of choice, when but few tests are carried out and where guinea pigs are scarce. After allowing the blood to stand over night at room temperature, the serum is withdrawn and diluted to the desired strength with normal saline solution. The dilutions commonly used are a 1 to 10 or a 1 to 20. In either case the complement must be titrated with the other reagents. Complements must be titrated not only for the hemolytic dose, but also to make sure that complement in itself is not hemolytic.

Preservation of Complement.

Owing to the extreme lability of complement, preservation is difficult. Dr. Lloyd Thompson dilutes fresh guinea pig serum 1 to 1 with an 8.1-percent solution of NaCl and seals two c.c. of this mixture in ampules. To use the contents of one ampule is diluted in 8 c.c. of distilled water. This brings the salt content to .9 per cent. He has used ampules six weeks old.

References.

Nuttall, Marshall, Hiss and Zinsser, Simon, Stitt, Park and Williams, Zinsser, Kolmer, Journal A. M. A., Jordan, Adami, and Muir and Richie.

PROPAGANDA FOR REFORM.

Dr. Pierce's Pleasant Pellets.—The A. M. A. Chemical Laboratory reports that the pills responded to tests for emodin and aloin. Essentially, Pierce's Pleasant Purgative Pellets appear to be an ordinary laxative pill. That the active principle of aloes was found in the pills is of interest in view of the fact that the leaflet advertising Pierce's Pleasant Pellets warns the public against the use of purgatives composed of aloes. (*Jour. A. M. A.*, Dec. 4, 1915, p. 2025.)

Nose-Ions. — The A. M. A. Chemical Laboratory reports that the circular matter for "Nose-Ions" is a crude attempt to impose on a scientifically trained profession with pseudo-scientific patter about ions, ionic dissociation and the positive and negative charges of ions. It appears that Nose-Ions is essentially an ointment consisting of a petrolatum base, containing some odorous principles such as camphor, menthol and eucalyptus, with some salicylic acid and some quinine. (*Jour. A. M. A.*, Dec. 4, 1915, p. 2026.)

Ozomulsion. — This "patent medicine" long sold as a consumption "cure" has been declared misbranded under the Food and

Drug Act, the therapeutic claims being both false and fraudulent. The preparation was found to be an emulsion of cod liver oil, with glycerine and phosphorus compounds of calcium and sodium. (*Jour. A. M. A.*, Dec. 18, 1915, p. 2184.)

Dr. Wittington's Treatment for Consumption.—This preparation was examined in the A. M. A. Chemical Laboratory. From the analysis it appears that Dr. Whittington's Treatment for Consumption is a flavored syrup devoid of potent ingredients other than alcohol. Dr. Whittington is a member of the Medical Society of California. (*Jour. A. M. A.*, Dec. 18, 1915, p. 2184.)

Rogers' Consumption Cure. — Rogers' Consumption Cure and Cough Lozenges and Rogers' Inhalant were advertised for the treatment of diseases of the lungs, etc. The government chemists reported that the first consisted of sugar lozenges, containing a small amount of gum and a trace of oil of rosemary. The inhalant was found to be an alcoholic solution of volatile oil, chiefly rosemary. The government held the therapeutic claims made for these preparations false. The owners having made no defense, they were fined. (*Jour. A. M. A.*, Dec. 18, 1915, p. 2185.)

Mist. Helonin Comp.—The only available information in regard to the composition of Mist. Helonin Comp., Schlotterbeck and Foss, is a statement in a circular that the active ingredients are helonin, senecin and avenin and the statement on the label that it contains 45 per cent alcohol. The alcohol content is that of strong whiskey. The practically inert drugs asserted to be contained in it would not in the least interfere with its use as a cordial. On the basis of the information supplied by the manufacturer, Mist. Helonin Comp. may be classified as an objectionable and worthless nostrum—unless we regard the alcohol as of value. (*Jour. A. M. A.*, Dec. 18, 1915, p. 2186.)

Incompatibility of Quinine with Aspirin. — Experiments have shown that weak acids, such as acetylsalicylic acid (aspirin), citric, malic, acetic or tartaric acid under the influence of heat may convert quinine into its poisonous isomer quinotoxin and cinchona into cinchotoxin. The danger of the formation of quinotoxin in the body can not be great. Ready-made mixtures of quinine or cinchona preparations with weak organic acids should be avoided. (*Jour. A. M. A.*, Dec. 18, 1915, p. 2187.)

Salvarsan Made in U. S.—Because of the shortage due to the war, salvarsan is made and offered for sale under its chemical name to physicians and hospitals urgently in need of it by the dermatologic laboratories of the Philadelphia Polyclinic. Dr. Jay F. Schamberg, the director of the Department of Dermatological Research, states that the product made by the dermatologic laboratories has been employed on hundreds of cases with excellent therapeutic results and with no reports of accident or untoward complications. (*Jour. A. M. A.*, Dec. 18, 1915, p. 2179.)

Hydragogin.—The Council on Pharmacy and Chemistry reports that Hydragogin (C. Bischoff & Co.), advertised as a "most wonderful diuretic and cardiac tonic," is a shotgun mixture of semi-secret composition, marketed under a therapeutically suggestive name and advertised by means of unwarranted therapeutic claims. Hydragogin is said to be a preparation of digitalis, strophanthus, squill and a saponin. The report explains the objection to the administration of digitalis and strophanthus is fixed proportion because of the varying rates of absorption and excretion of these two drugs. It further cautions that since digitalis bodies must often be given to the point of beginning toxic action in order to obtain the full therapeutic effect, it is obvious that the administration of a mixture of digitalis, strophanthus, saponins and squill is especially liable to induce serious toxic effects which cannot be distinguished from the symptoms of the disease. (*Jour. A. M. A.*, Sept. 4, 1915, p. 894.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.

Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.

Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.

Graham E. Henson, M. D. ..... *Jacksonville*

ASSOCIATE EDITORS.

Thomas Truelsen, M. D. ..... *Tampa*
J. K. Simpson, M. D. ..... *Jacksonville*

COLLABORATORS.

Raymond C. Turck, M. D., F. A. C. S., Jacksonville *Surgery*
Thomas Truelsen, M. D., Tampa ..... *Medicine*
Gerry R. Holden, M. D., F. A. C. S., Jacksonville *Gynecology*
James D. Love, M. D., Jacksonville ..... *Pediatrics*
W. S. Manning, M. D., F. A. C. S., Jacksonville .... *Eye, Ear, Nose and Throat*
J. L. Kirby-Smith, M. D., Jacksonville ... *Dermatology*
Henry Hanson, M. D., Jacksonville ..... *Bacteriology and Pathology*
L. W. Cunningham, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.

E. W. Warren, *M. D.*, President ..... *Polotka*
John A. Simmons, M. D., First Vice-President ..... *Arcadia*
E. Van Hood, M. D., Second Vice-President ..... *Ocala*
John Long, M. D., Third Vice-President ..... *Lake City*
Graham E. Henson, M. D., Secretary-Treasurer ..... *Jacksonville*

EXECUTIVE COMMITTEE

R. H. McGinnis, M. D. ..... *Jacksonville*
John MacDiarmid, M. D. ..... *DeLand*
R. N. Greene, M. D. ..... *Chattahoochee*

COUNCILLORS.

First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920

Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917

Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917

Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville .. 1918

Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala .. 1919

Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa 1919

Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna 1918

Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920

Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918

Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia 1920

Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West 1917

COMMITTEE ON SCIENTIFIC WORK.

F. C. Moor, M. D. ..... Tallahassee
C. D. Christ, M. D. ..... Orlando
F. F. Ferris, M. D. ..... Apalachicola

Next Meeting — Atlantic Beach — May, 1917

MEDICAL PREPAREDNESS.

There has recently been organized a Committee of American Physicians to ascertain the availability of medical men throughout the country for medico-military service in the event of a crisis at any time. That a complete survey of the available resources of the country is a wise step is evidenced by looking back to Spanish-American war times in 1898, and by reviewing the opening period of the present conflict now going on among the European nations.

As General Wood recently stated in an address before the American Educational Association, "History is too superficially taught here. How many of our children leave school with a knowledge of the fact that we have never fought a war without aid when we engaged a first-class power? * * * We have altogether too much of the Fourth-of-July oratory, all too much of the type of man who speaks of a million springing to arms between sunrise and sunset. We have been sitting up nights for three weeks to see 30,000 men spring, and it is a very heavy spring."

The committee above referred to has recently addressed the following letter to all State and various other medical organizations:

"Through the Hay bill in the House and the Chamberlin bill in the Senate, Congress has for the first time in the history of the country provided for the enrollment of an adequate percentage of physicians to supply the needs of the Regular Army and the National Guard. It has also provided for the enrollment of a large number of physicians in the Officers' Reserve Corps which replaces the Medical Reserve Corps. It would, therefore, seem appropriate that members of our several committees and representatives of the various medical organizations, especially State and County societies, should let their respective representatives in the Senate and House know that the medical profession appreciates that action. If the individual representative

voted for an adequate medical personnel, he will be pleased to receive the approbation of the medical profession of his community. If he failed to support that feature of the bill, he will realize that the judgment of the medical profession should be more fully respected in the future.

"It has been suggested that on purely patriotic and non-partisan lines, the State committees, and the State and County societies might indicate their approval of the provisions above referred to, and their desire that in the future their representatives provide adequate facilities for the equipment and training of a sufficient number of medical officers to meet any possible demands. In this connection, it should be remembered that in the event of a grave international conflict, all physicians who are called to the colors must be officers; and that efficient officers can not be made quickly. Everyone, even the most ardent pacifists, should see the wisdom of giving adequate equipment and training to the only group of people whose duty it is, even in the thick of battle, to relieve suffering, to prevent mutilation and to save life.

"Inasmuch as medical and surgical services are essentially individual services, rendered to individual patients, it is not sufficient to have a few well-trained hospital and other medical units in the service. All units that may be called should be fully equipped and adequately trained for their new duties. This means that equipment and training should be provided for at least twenty thousand physicians and surgeons in the Medical and Officers' Reserve Corps.

"Your active interest in, and your prompt attention to this matter are earnestly desired. Kindly take it up at once with your State committee and with the officers of your county and other representative local medical societies."

The Journal takes this means of communicating the above to all county organizations and individual members throughout the State, and wishes to urge the profession to give the committee the hearty cooperation and support it is enitled to. This is another instance where we have a distinct duty to perform. Let us up and do it.

OH, MR. ADVERTISER!

In the last issue of The Journal we called especial attention to our usual monthly bulletin appearing on an advertising page. It was addressed to the members of the Florida Medical Association and other subscribers of The Journal and reminded them of their obligation to patronize our advertisers. As has been repeatedly stated in these columns, a successful journal has to maintain a well-balanced proportion of advertising pages to other matter.

We believe our advertisers are securing a reasonable patronage for our contracts are being renewed, and the number of advertising patrons constantly increasing. However, always having in view the improvement of our Journal, in this issue we directly address the advertisers.*

All successful mercantile establishments appreciate the value of and the necessity for advertising the products in which they trade. The Journal of the Florida Medical Association has proved itself an effective advertising medium. It merits your patronage, Mr. Advertiser. Frankly, we will appreciate your using our advertising columns and are confident that you will find these will open for you a market among the medical profession of this state.

This Journal is owned by the Florida physicians; they are naturally interested in its welfare. As an advertiser in this publication you obtain a point of personal contact with each member of the State Association—the owners of this Journal.

THE PREVENTION OF DISEASE.

During the past few years we have heard so much of the wonderful advancement made by medical science in bettering health

*See Bulletin 8 on adv. page vi.

conditions in the tropics, that reports concerning the good health of large bodies of men laboring in the tropics under sanitary control excite little comment.

The report of Major E. E. Persons, Acting Chief Health Officer of the Panama Canal Zone, for the month of May contains the following three especially significant statements: "The last case of smallpox contracted on the Isthmus was in 1907 .... The last case of yellow fever contracted on the Isthmus occurred in November, 1905, ... The last case of bubonic plague contracted on the Isthmus occurred in August, 1905."

The civil population of this and other countries can learn a useful lesson by well considering these statements. We have many preventable diseases throughout the world today, causing innumerable deaths and producing much misery and suffering, that could be stamped out by our health authorities if they could only secure the active cooperation of the individual. In military zones this can be commanded in civil life, however, it has very largely to be solicited. Without it the Health Officer is practically helpless, with it he could soon become supreme. In other words our sanitary officers are able to prevent as many of the preventable diseases as the public will allow them to.

ANOTHER STATE JOURNAL.

We are pleased to welcome another state journal into the realms of medical literature. *The Nebraska State Medical Journal* made its initial appearance during the past month, and as their official organ is a credit to the Nebraska State Medical Association.

The first issue contains thirty-two pages of reading and twenty pages of advertising matter.

It is pleasing to note that "No advertisement of a preparation suitable for analysis by the Council on Pharmacy and Chemistry of the American Medical Association will be accepted until the endorsement of the Council is guaranteed."

THE JOURNAL extends greetings to this new publication and wishes for it a prosperous career in the interests of organized medicine.

RURAL HEALTH AMERICA'S FIRST DUTY.

Shortly after Congress convened, last winter, Senator Randsdell of Louisiana, chairman of the Senate Committee on Public Health and National Quarantine, introduced Senate Bill 2214, appropriating $500,000 for the use of the United States Public Health Service, to be used in investigating and encouraging the adoption of improved methods of rural sanitation and especially for devising and demonstrating effective measures against malaria and typhoid, instructing farmers in the prevention of these diseases, carrying on necessary investigation and surveys, and cooperating with State and local authorities to eradicate these diseases in rural districts. Friday, July 14th, in the Senate, Senator Randsdell presented a strong argument for his bill. He reviewed the history of health legislation in the United States, showing that local regulation had generally been ineffective and that most of our advances in Federal legislation had resulted from disastrous experiences with epidemic diseases. As the representative of the Southern state in which the inroads of yellow fever have been perhaps most severe, Senator Randsdell is able to speak with authority and from personal observation. New Orleans' recent epidemic of bubonic plague and the brilliant work of the Public Health Service in stamping it out was vividly described. "Never again will there be an epidemic of bubonic plague in New Orleans," he said. "The people of that city realized that the conquest of this disease was one for the Federal government. * * * Today, as a result of the campaign against yellow fever and the campaign against bubonic plague, New Orleans is one of the

healthiest cities in the world." After reviewing the work of the Public Health Service and showing the limited means available, Senator Randsdell showed that in this country, in any line of progress, education is indispensable, and that, although much educational work has been done, and although the death rate throughout the nation has fallen during recent years, this decline has been much greater in urban than in rural communities. He then discussed the economic and vital loss due to malaria and typhoid, showing that these two diseases alone cost the United States over $900,000,000 each year, and that both diseases are almost entirely preventable. Comparing the 1915 appropriation for the prevention of human disease with that for the prevention of diseases of animals, Senator Randsdell called attention to the fact that the total amount appropriated last year for human welfare was less than two million dollars, while the amount appropriated for animal and plant welfare was nearly six million. "The problem of rural sanitation," he declared, "is not a local problem, but one which concerns the health and physical integrity of our entire nation." Senator Randsdell's speech in favor of the passage of his bill is one of the strongest public health utterances ever made before Congress. While the bill is simple in its phraseology and provisions, its passage would result in widespread and lasting benefit to the entire country, and would greatly strengthen the Public Health Service. If Congress will pass this measure, it will deserve the gratitude and thanks of the public and especially of our rural population.—*Journal of the American Medical Association.*

PREVENTION OF INFANTILE PARALYSIS.

To control the present epidemic of infantile paralysis, according to a statement issued by the United States Public Health Service today, the chain of infection between persons harboring germs of the disease and the well members of the community should be broken. Infantile paralysis is probably caused by a very minute organism found in the nasal, mouth and bowel discharges of those who have the disease or who are carriers of the germ without themselves suffering from the ailment. All of the steps in the spread of the infection are not known but if this germ can be prevented from passing from the infected to the well person, the disease will cease.

Infantile paralysis is not a disease of recent origin. Sporadic or scattered cases have occurred throughout the country for many years but it is only during the last decade that the infection has assumed epidemic proportions in the United States. The present epidemic in New York, on account of its magnitude and virulence, has awakened the residents of many communities to the danger of the importation of the disease into their own midst. This danger is real, but if due precautions are exercised it is believed that the epidemic will subside.

The actual control of the present epidemic must be left to the city, State and Federal health authorities. These organizations will properly quarantine and care for affected persons, prescribe sanitary measures and limit as may be necessary the travel of individuals in order to protect neighboring districts from the infection. Individuals and communities, however, can do much toward their own protection.

Poliomyelitis is probably spread directly or indirectly, through the medium of infective secretions. Account must, therefore, be taken by communities of every means by which such secretions are disseminated. Promiscuous expectoration should be controlled. The common drinking cup affords a method for the interchange of material of this nature and should therefore be abolished. Rigid cleanliness of glasses and utensils at soda fountains, in saloons and other public places should be enforced. Flies, roaches and other vermin, by coming in contact with infective secretions, may pos-

sibly convey them to our food and thus directly bring about the development of disease. Therefore eliminate insects. Street and house dust bear a definite relation to the spread of many infections and it is not unreasonable to presume that they may be a factor in the dissemination of infantile paralysis. Maintain strict cleanliness of streets, yards and alleys in order to prevent the breeding of insects and other vermin. See that all garbage and waste are properly cared for and collected at regular and frequent intervals. Guard all food supplies, especially milk and other perishable products. Digestive troubles of children arising from the ingestion of food of questionable quality may lower resistance. Assemblies of children in infected localities are to be discouraged, if not actually forbidden. While the above measures are in a sense general, and applicable to many epidemic diseases, their importance should not be overlooked.

Individual preventive measures may be thus summarized:

Summon a physician at once and immediately notify the health officer of the presence of the disease. If the disease is present in the community, medical aid should be sought whenever a child is sick, no matter how light the illness; many cases of infantile paralysis begin with a slight indisposition. Should the illness prove to be infantile paralysis, isolate the patient, place a competent person in charge, and reduce all communication with the sick room to a minimum. Hospital care is preferable, not only for the child but in order to better safeguard against the spread of the disease. The sick room should be well ventilated and screened. Nasal and mouth secretions should be received in cloths, placed in a paper bag and burned. The clothing of the child, the bed linen, and the excretions should be disinfected in the same manner as for typhoid fever, that is by boiling, the long continued application of 5 per cent carbolic, or other well-recognized disinfectant. The same is true for dishes and drinking vessels. Nurses should exercise the same precautions as regards cleanliness of hands in caring for infantile paralysis patients as for those afflicted with other infectious diseases.

A child may convey the disease to others even after a lapse of several weeks. For this reason quarantine should be maintained for a considerable period, usually from six to eight weeks, and the above precautions should be adhered to during this time. Disinfection of the room following recovery is advisable.

Cancer Department

"In the early treatment of cancer lies the hope of cure."

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

TEN CANCER DON'TS.

1. Don't procrastinate.

2. Don't forget your duty to the patient who consults you during the cancer bearing age about some apparently trivial lesion which might be a precursor of cancer.

3. Don't delay in advising the removal of the jagged tooth which is causing a spot of chronic irritation on the tongue or inside the cheek.

4. Don't wait for an unhealed fissure of the lip to become clinically malignant before advising its removal.

5. Don't prescribe local applications for a chronically inflamed wart or mole. Remove it.

6. Don't prescribe any local treatment for a persistent lump in the breast. If it is benign, the application will do no good. If it is malignant, the massaging may hasten metastasis. The only safe treatment for lumps in the non-lactating breast is their removal.

7. Don't treat eczema of the nipple and areola without first ruling out duct cancer as its cause.

8. Don't prescribe for irregular vaginal bleeding until you have made an exhaustive

examination and eliminated cancer as the cause.

9. Don't forget that rectal bleeding does not *always* mean hemorrhoids: it sometimes signifies cancer of the rectum.

10. Don't allow yourself to become a pessimist concerning cancer. It is unquestionably curable in the early stages when it is still a local growth.

DEATH OF DR. J. B. MALONEY.

Word reaches us just as we are going to press of the sudden death of Dr. J. B. Maloney of Key West. Dr. Maloney was taken suddenly ill while in Philadelphia. A more extended notice will appear in the September number of THE JOURNAL.

THE NATIONAL BOARD OF MEDICAL EXAMINERS OF THE UNITED STATES.

The need of a standard medical examining body for the whole United States and its Territories (tributary thereto) has occasioned the organization of The National Board of Medical Examiners. It is a voluntary board, the members of which are selected from the Medical Corps of the Army, the Navy, and the Public Health Service, the Federation of State Examining Boards, and other representative organizations, and the medical profession of the United States.

The aim of this board is to establish a standard of examination and certification of graduates in medicine, through which by the cooperation of the individual Boards of Medical Examiners, the recipients of the certificates of the National Board of Medical Examiners may be recognized for licensure to practice medicine.

The policy of the board is to conduct its examinations on a broad scientific basis of such a high yet practicable standard that the holders of its certificates will receive universal recognition.

The independent action by the board is furthered by the financial and moral support of the Carnegie Foundation.

The original board consists of fifteen members, as follows, and remains unchanged, except for the loss of the founder and secretary Dr. Rodman, who died on March 8, 1916. At a meeting June 13, 1916, Dr. W. L. Bierring, of Des Moines, Iowa, was elected to the board:

Surgeon-General W. C. Braisted, U. S. N., President.

Dr. W. L. Rodman, Secretary.

Colonel Louis A. LaGarde, U. S. A., Ret., Treasurer.

Surgeon-General W. C. Gorgas, U. S. A.

Surgeon-General Rupert Blue, U. S. P. H. S.

Medical Director E. R. Stitt, U. S. N.

Assistant Surgeon-General W. C. Rucker, U. S. P. H. S.

Dr. Herbert Harlan, Federation of State Medical Examining Boards.

Dr. Isadore Dyer, New Orleans, La.

Dr. Victor C. Vaughan, Ann Arbor, Mich.

Dr. Henry Sewall, Denver, Col.

Dr. Louis B. Wilson, Rochester, Minn.

Dr. E. Wyllys Andrews, Chicago, Ill.

Dr. Horace D. Arnold, Boston, Mass.

Dr. Austin Flint, New York, N. Y.

The permanent organization of the board will consist of the three Surgeon-Generals and one other representative from each of the Government Medical Services, three representatives of the Federation of State Medical Examining Boards, and six members chosen at large from the medical profession by the National Board of Medical Examiners.

The official domicile of the board is Washington, District of Columbia.

REQUIREMENTS FOR ADMISSION TO THE EXAMINATION.

Satisfactory completion of

(*a*) *High School.* A four-year high school course.

(*b*) *College.* Two years of acceptable college work, including physics, chemistry, biology, and a modern language.

(*c*) *Medical School.* Graduation from a Class "A" medical school. (American Medical Association classification.)

(*d*) *Hospital Training.* One year as interne in an acceptable hospital or laboratory.

The above requirements apply to graduates of medical schools in 1912 and thereafter. The board may accept equivalent credentials in the case of graduates previous to 1912.

EXAMINATIONS.

The board has been given spacious rooms in the Armory Medical Museum for conducting its examinations. They will be conducted primarily by members of the board, and will be written, oral, and practical, including the examination of cases. In addition to the written examinations held in the Armory Medical Museum, oral, written, and laboratory examinations will be held also in the Army and Navy Medical Schools, and in the Hygienic Laboratory of the Public Health Services, these facilities, as well as the Government hospitals wherein will be held clinical examinations, having been placed at the disposal of the board for the purpose.

Credentials must be presented to the board sufficiently early for investigation. If adequate time is not allowed for this purpose, credentials may be rejected.

The following subjects will be included:

1. *Anatomy*: Microscopic—Embryology, histology and organology, neurology. Gross—Osteology, dissection. Applied—Regional, topographical, surgical.

2. *Physiology.*

3. *Chemistry and Physics*: Organic, physiological, physics.

4. *Pathology and Bacteriology*: Bacteriology, microscopic pathology, gross pathology, surgical pathology.

5. *Materia Medica, Pharmacology and Therapeutics*: Materia medica, pharmacology, therapeutics and prescription writing, electrotherapeutics (including radiotherapy).

6. *Medicine*: Theory and practice, physical diagnosis, laboratory diagnosis, diseases of nervous system (including psychiatry), diseases of children, tropical medicine.

7. *Surgery*: General, including minor surgery, operative surgery. Special Surgery—Ear, nose and throat, eye, genito-urinary, orthopedics, radiology, skin diseases, syphilis and venereal diseases.

8. *Obstetrics and Gynecology.*

9. *Hygiene and Sanitation*: Sanitary science, epidemiology, vital statistics, State medicine.

10. *Medical Jurisprudence.*

SUBJECT VALUES.

1. Anatomy	100
2. Physiology	75
3. Chemistry and Physics	75
4. Pathology and Bacteriology	100
5. Materia Medica, Pharmacology, and Therapeutics	75
6. Medicine	200
7. Surgery	200
8. Obstetrics and Gynecology	100
9. Hygiene and Sanitation	50
10. Medical Jurisprudence	25
Total	1000

Passing grade is an average of 75 per cent.

A candidate receiving a mark below 50 per cent in one subject or below 65 per cent in two subjects, fails.

Candidates failing at the first examination may register for a second examination at the end of one year. A third examination will not be allowed.

It is expected that the examination will cover about one week.

No fee is charged for the examination itself, but a registration fee of five dollars will be required.

The first examination will be held in Washington, beginning October 16, 1916.

CERTIFICATION.

Candidates who have been successful in passing the examination and are approved by the board, will be granted certificates.

This certificate is not a license to practice medicine, nor does it exempt the holders thereof from complying with the legal requirements of the States in which they desire to practice; but it will be evidence of high attainment in medical knowledge; and will, the board believes, soon be accepted by State boards as evidence of qualification for licensure.

Further information and application blanks may be obtained from the secretary,

DR. J. S. RODMAN,
2106 Walnut Street, Philadelphia, Pa.

Reviews from Current Literature

PAINLESS LABOR

Edgar, J. C.: Painless Labor. Trans. Amer. Gyne. Assn, May, 1916. Abs. from International Abs. of Surgery.

Edgar's conclusions are as follows:

A satisfactory method consists in the use of nitrous oxide-oxygen analgesia or obstetric ether or chloroform for the second stage, pushed to anesthesia for the perineal stage; possibly forceps delivery with vapor anesthesia to eliminate part of the second stage.

Nitrous oxide-oxygen analgesia or anesthesia is superior to any other during labor because of its oxytonic action.

Eventually an established method of painless labor might be rightly considered as a public health measure.

Lessening or abolishing the pain of labor might in the future limit birth control and criminal abortion.

Drug addiction after a prolonged drug narcosis in the neuropathic is a possible contingency.

Dangers to the unborn or newly-born child are negligible when drug narcosis is limited to the first stage. G. R. H.

PITUITARY EXTRACT

Hingston, C. A. F.: The Uses of Pituitary Extract in Labor at the Government Maternity Hospital, Madras. Indian Med. Gaz., 1916, LI, p. 81.

Hingston reports the results of 1,000 doses of pituitary extract given to different women in different stages of labor. He divides the cases into the following groups: (1) Treatment with pituitary extract alone; (2) treatment with pituitary extract and small doses of morphia; (3) treatment with pituitary and large doses of morphia; (4) treatment with pituitary extract, morphia and scopolamine (twilight sleep); (5) treatment with pituitary extract and chloroform; (6) cases of Caesarean section in which pituitary extract was given five minutes before; (7) cases of induced labor in which pituitary extract was given to induce labor.

The earliest time of administration in groups 1, 2, 3, 4 and 5 was when effacement of the cervix occurred. Dilatation of the os was not necessary.

The severe pains following the pituitrin was relieved best by chloroform or morphia (1-4 gr.). Large doses of morphia (1 gr.) produced "blue babies," as also did twilight sleep; two babies died with the latter procedure, although the heart beat strongly for an hour The best results were obtained with chloroform.

Indications were: (1) weak pains; (2) to hasten delivery with normal pains; (3) for a floating head—when there was no disproportion—as a substitute for high forceps; (4) as a prophylactic against postpartum hemorrhage; (5) to prevent bleeding in Caesarean section.

The place of administration was the arm, as better action was secured from the arm than from any other part.

To induce labor, pituitary extract was given and at the same time the membranes were separated with the finger for three-fourths of an inch about the os. G. R. H.

INFANTILE PARYLISIS

Flexner, Simon: The Nature, Manner of Conveyance and Means of Prevention of Infantile Paralysis. Jour. A. M. A., July, 1916, Vol. LXVII, p. 279.

It is definitely determined that infantile

paralysis is caused by the invasion of the spinal cord and brain by a small, filterable microorganism which has been secured in artificial culture and which is visible under high powers of the microscope. The infectious virus is constantly found in the mucous membrane of the nose, throat and intestines of persons suffering from the disease. Is not found in the circulating blood. Demonstration of the microorganism is too difficult to permit of it being utilized as a diagnostic aid. The virus can best be detected by inoculation tests on monkeys, which animals develop a disease corresponding to infantile paralysis of human beings. Through personal contact the mucous membranes of the nose and throat of healthy people may become contaminated with the virus and such individuals may either contract the disease or may become true "carriers." The virus leaves the body in the secretions of nose, throat and intestines. It enters the body by way of mucous membranes of nose and throat and finally penetrates the brain and spinal cord. The virus withstands extreme summer temperature after being discharged from the body, withstands complete drying and the action of mild chemicals. Its survival is favored by darkness, hindered by bright daylight and readily destroyed by exposure to sunshine. Insects only stand in a causal relation through becoming contaminated and mechanically conveying the virus to food or directly to nasal or buccal mucous membrane.

Domestic animals have not been proven carriers of the disease. The usual period of incubation is within eight days, and the period of infectivity of a diseased individual is no longer than six weeks. One attack confers subsequent immunity, and the blood serum of recently recovered human beings and monkeys has been used in an effort to confer passive immunity and for its action as a curative agent. Passive immunity thus conferred is too brief and uncertain to be practicable. When used as a curative agent the results are said to be promising. Immune serum can be secured from no other animal than man and monkeys. J. D. L.

ETIOLOGY OF CHOREA

Morse, John Lovett, and Floyd, Cleveland: A Study of the Etiology of Chorea. Amer. Jour. Diseases of Children, July, 1916, Vol. XII, p. 61.

An exhaustive study of chorea in twenty-six cases was undertaken with a view to determine the parts which syphilis and bacterial infection play in the etiology of the disease.

It is admitted that some cases of chorea have been benefited by the use of salvarsan, but the good results secured have probably been due to the parasiticidal action of the arsenic.

A study of these cases justifies the conclusion that syphilis seldom if ever plays any active part in the etiology of chorea.

There is much that points to a microorganism as the cause of chorea, but this as yet has not been proven. If caused by a microorganism the source of infection is ordinarily in the tonsils and teeth. Investigations confirm the belief that chorea, rheumatism and endocarditis are intimately associated. J. D. L.

SWIMMER'S CONJUNCTIVITIS

Gradle, Harry S.: Swimmer's Conjunctivitis. Opthalmology, Vol. XII, 1916, p. 652.

The following article is of particular interest at this time of year when swimming may be classed as one of the most popular sports.

The author quotes P. Schultz of Berlin as having reported the first case in 1899, who described the infection as "clinically characteristic, contagious conjunctivitis, very similar in its initial appearance to trachoma, but radically different when judged from the clinical course."

He further quotes Brown as having reported five hundred cases occurring in Philadelphia during the summer of 1914, the source of infection being traced to various baths in a restricted area. The period of incubation is stated to be twelve hours.

Gradle had eighteen cases under observation during the summers of 1914-1915.

The clinical picture is described by the author as follows:

"In the earlier stages of the disease, occasionally unilateral but frequently bilateral within a week.

"Moderate photophobia.

"Small amount of muco-purulent secretion, particularly at night.

"Moderate œdema of the lids.

"Tarsal conjunctiva slightly swollen and roughened. Coarse injection with individual vessels standing out prominently. No distinct hyperplasia of follicles. These symptoms increasing as the transitional folds are approached.

"Conjunctiva of the transitional folds more swollen, with a smoother surface and deeper red color. Injected vessels lose their individuality. On eversion, the conjunctiva presents the rugælike appearance characteristic of the rectal mucosa.

"Bulbar conjunctiva slightly œdematous and swollen. Moderate coarse injection beginning at the transitional folds and decreasing toward the cornea, so that the limbus is surrounded by a zone of normal appearing conjunctiva. Caruncle participates only slightly in the conjunctival infections."

The treatment found most effective was 1 per cent silver nitrate daily and 10 per cent argyrol three times a day. It seemed most effective when dropped "directly in the conjunctival sac; for forcible closure of the lids, spread the caustic into the depths of the transitional folds, the parts most affected."

The author concludes by stating he believes his cases coincide with those reported from Berlin and that they form a definite clinical entity. W. S. M.

ROENTGENOGRAPHIC DIAGNOSIS

Moore, Alexander B., and Carman, R. D.: Roentgenographic Diagnosis of Metastatic Pulmonary Malignancy. Amer. Jour. of Roentgenology, Vol. III, 1916, p. 126.

The roentgenologic appearance of metastatic malignancy is quite typical and consists in the localization of clear-cut circumscribed areas of increased density, varying in size, from the head of a small hat-pin to that of an orange.

Their conclusions bring out the points of interest in their paper:

"1. Pulmonary metastatic malignancy is not an uncommon condition and may occur regardless of the seat of the primary focus.

"2. Pulmonary matastasis bears no relationship to the extent or the duration of the primary focus.

"3. The clinical picture in a majority of these cases is very indefinite, neither the subjective nor the objective manifestations being characteristic of the condition.

"4. Metastatic pulmonary malignancy is a definite roentgenographic entity, appearing in the roentgenogram as clear-cut circumscribed areas of increased density.

"5. In many instances the diagnosis can be established only by the roentgenogram. By routine roentgenographic examination of the thorax many patients suffering from malignancy will be saved from useless and unwarranted surgery." L. W. C.

Publisher's Notes

HAY FEVER AND ITS COMPLEXITIES.

Because of the protean manifestations of hay fever and its irregular appearance, either as the early-summer variety or the so-called autumnal catarrh, it is evident that no single therapeutic agent can eliminate, or even modify, the symptoms in all cases. Each individual sufferer presents problems that pertain peculiarly to himself, and other than the vasomotor relaxation of the upper respiratory tract, which is common to all, there are no uniform underlying pathologic changes.

These cases may be divided into three classes: those in which the neurotic element is the predominating feature; those wherein a general systematic condition, as lithemia, seems to stand out conspicuously, and—much the largest class—those in which the affection is intimately associated with the presence of pollen in the atmosphere.

Undoubtedly the suprarenal substance, in the form of its isolated active principle, Adrenalin, is one of the most reliable agents for the treatment of hay fever. Experienced physicians assert that it successfully controls the symptoms in a large majority of cases. Adrenalin cloride solution and Adrenalin Inhalant are the preparations most commonly used, being sprayed into the nares and pharynx. The former should first be diluted with four to five times its volume of physiologic salt solution. The latter may be administered full strength or diluted with three to four times its volume of olive oil.

A NEW CORPORATION.

Announcement has just been made of the formation of a new corporation, called the Victor Electric Corporation, which has purchased the business of the following firms:

Victor Electric Company, Jackson Boulevard and Robey Street, Chicago, Ill.; 110 East 23rd Street, New York.

Scheidel-Western X-Ray Company, 737 West Van Buren Street, Chicago, Ill.; 110 East 23rd Street, New York.

Macalaster-Wiggin Company, 66 Broadway, Cambridge, Mass.; 154 West Lake Street, Chicago, Ill.; 110 East 23rd Street, New York.

Snook-Roentgen Manufacturing Company, 1210 Race Street, Philadelphia, Pa.; 110 East 23rd Street, New York.

The purpose of the new corporation is to continue the respective business policies of the above mentioned concerns, and by the elimination of waste and the development of cooperative service, be better able to serve more efficiently the interests of the medical profession.

The sales and service organization will be much more comprehensive than heretofore, it being the plan to continue all of the present branch offices and open new ones in all sections of the country so that ultimately no member of the profession, no matter where located, will be more than a few hours distance from a trained man, who can render intelligent and efficient service.

By maintaining a research department to cooperate with the profession in the development of this science, it is expected that more rapid progress can be made than has been heretofore, and a greater cooperation secured with the profession as a whole.

The new corporation announces that it expects to conduct its business in an entirely ethical manner, believing that there is a standard of ethics in business that conforms exactly with our ethics and traditions.

It is also the purpose of the new corporation to make every customer feel that the pleasant relations existing between them and the various firms will be continued. They wish it to be known that repair parts and supplies for the apparatus of the constituent concerns may be obtained at any of the afore-mentioned addresses.

The stabilization of this industry is another great advantage which, with the added economy of production, assures the profession of the greatest values and a conduction of the business along sound financial lines.

The names of those associated with its management, who formerly had charge of the respective merged companies, are men of high calibre and recognized ability and warrant us in wishing the new corporation the best of success.

Our Advertisers Are Helping Us
Are You Helping Them?

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION
PUBLISHED MONTHLY
Volume III St. Augustine and Jacksonville, Florida, September, 1916 Number 3

ORIGINAL ARTICLES

FRACTURE OF THE NECK OF THE FEMUR.*

JOHN REEVE, M. D.,
DeLand, Fla.

The title of my paper indicates a very large subject, and it will be only possible for me to give merely an epitome of the most salient points connected with it as I have seen them, or know them to be.

I think I can venture to say that we—not one of us—are never anxious to be called to a case of fracture of the neck of the femur, or, for that matter, to a fracture of any part of the femur. It means, to any of us, an infinite amount of care and trouble, and, do what we will, the results are only very exceptionally satisfactory, and I believe it to be a generally admitted fact that accidents to this bone cause more dissatisfaction to patient and surgeon alike than any other bone in the body.

I will not go into the minute anatomy of the bone and adjacent joint, but merely mention the structures which concern us most in this fracture: the acetabulum, the head and neck of the femur, the trochanters —major and minor—the capsular ligament and the synovial membrane that lines it, the ilio-femoral ligament and the ligamentum teres, or round ligament. The muscles acting on this fracture are the external rotators, the pectineus, the glutei and the ilio-psoas; these muscles are the active agents in producing the eversion and rotation outwards. The shortening is caused by the action of parts of the glutei, the rectus femoris, the semitendinosus and the semimembranosis. The ilio-psoas also aids in producing this symptom. Speaking of this last muscle, the ilio-psoas, reminds me of the fact that it causes us more trouble than all the others combined in fractures from the middle of the femur upward, being a compound muscle and having a very extensive origin from the lower dorsal and lumbar vertebra as well as the body and crest of the ilium. From this origin it passes downward and is inserted into the trochanter minor, and the shaft of the femur below, and who of us has not seen its action in drawing the upper fragment of a fractured femur, upward and outward, almost at right angles with the rest of the bone? It was to counteract the action of this muscle that the double inclined plane was suggested and used, but for obvious reasons it is useful only in exceptional cases.

Etiology.

This fracture is often the result of a very slight accident, occurs most frequently in persons over fifty and is much more common in women than men. A fall on the floor, or a trip in walking may cause it. Usually the force is from below, upwards: thus, a fall upon the knee, or stepping into a hole in the pavement without actually falling, or even muscular action, alone, may be sufficient.

The change in the angle of the neck of the femur from an oblique to almost a right angle, which often occurs in the aged, as well as loss of organic substance in the bone itself, rendering it more brittle, are contributory causes. This condition is called senile atrophy, and a fracture occurring under conditions above enumerated would usually mean that the neck of the bone was broken within the capsule and just below the head.

In younger persons, a fall upon the trochanter may cause fracture of the neck of the femur, but we would expect more force,

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

or violence, and the break would most likely be at the base of the neck, above, or through the trochanter.

Symptoms and Diagnosis.

Fracture of the neck of the femur is a comparatively frequent accident, and it usually occurs at one of two points—in the small part of the neck just below the head, or at the base of the neck, just above the trochanter. The first is called intra-capsular, the other extra-capsular; but as a matter of fact, these fractures are hardly ever of one type, the capsular form running outside of the capsule, and the extra-capsular running into the capsule: and as the two forms of fracture can not be diagnosed one from the other, except by the use of the X-ray—which should always be used when possible—and as the treatment of both is identical, the term "fracture of the neck of the femur" is sufficiently indicative of the condition. Hence the title of this paper "Fracture (instead of 'Fractures') of the Neck of the Femur."

Get first the history of the case and get it minutely. This is important. Then look at the posture the patient has assumed as he lies helpless in bed before you touch him. He is usually on his back with the leg shortened and rotated outwards, and the foot everted. The function of the leg is completely lost, and he can not raise it from the bed in the slightest degree; it may be perfectly straight, but is generally slightly flexed at the knee. You will probably also notice some swelling in front of the joint and over the trochanter. You will also notice that the trochanter is displaced, upward and outward, by the action of the glutei and iliopsoas, this displacement sometimes being very marked. According to authorities, this symptom is not constant in this fracture, but I have invariably found that, unless there was impaction, the trochanter was higher up than usual, and more prominent.

The eversion and shortening may at first be very slight—in fact may be entirely absent—but later they will be sure to appear. As for crepitus, one of the symptoms usually mentioned and expected, you do not always get it; and it is well not to be too energetic in your efforts to find it, for, apart from the injury you may do, as a diagnostic symptom you do not need it. All you do need is this: the history of a fall on the hip, knee, or foot, not necessarily a severe one in an elderly person, with entire loss of power in the leg and acute pain on attempted motion. That's a fracture of the neck of the femur—and we should treat it as such.

It is a great help in diagnosis, if it is possible, to have your patient out of bed, on the sound leg; then you can use your eyes as well as your hands, and nothing can escape you, as the symptoms are intensified in this position.

As a rule it is impossible for a patient to tolerate the slightest weight upon the limb, without causing intense pain. There are, however, exceptions to this, as Hamilton gives examples of patients, who, with this fracture, have not only stood upon the leg, but have walked some distance, this being possible by the fact that the capsule, and probably the periosteum, was not torn, or, where the fragments were not displaced, another possibility being that the fracture was impacted. Hamilton is one of the best of authorities, but statements of this character may generally be taken *"cum grano salis."*

It has also been noticed occasionally that there was inversion of the foot, instead of eversion, which is usual, but this is a rare occurrence. We must bear in mind the fact that the external rotators are a much stronger set of muscles than those which antagonize them, and also that there is a natural tendency for the foot to fall outward when at rest.

Separation of the epiphysis in the young simulates fracture of the neck very closely, having the shortening, the eversion and other symptoms. The history of the case and the age of the patient will be the chief diagnostic points.

I have never seen a case of inversion of

the foot in this fracture and only one of separation of the epiphysis, the latter in a girl of fifteen.

It is just possible to mistake dislocation of the head of the femur, upwards and forwards upon the pubes, for a fracture of the neck, as the leg is shortened and rotated outward—and it is well to remember that this is the only dislocation of the femur presenting these symptoms—but the usual immobility is present in a marked degree in this dislocation, and the head of the bone can almost invariably be felt in its abnormal position, which at once indicates the nature of the lesion.

Pathology.

The pathological condition of this fracture is, of course, never uniform. In the intra-capsular variety, the line of separation is usually in the upper and small part of the neck just below the head and separating it from the rest of the bone. It may be quite transverse, but is often oblique, running from below upwards. This is the form of fracture occurring in the very old, and generally from very slight causes, and in which the union, if there is any, is more often fibrous than bony.

The fracture at the base of the neck, extra-capsular, is often accompanied by splitting of the trochanter, with impaction of the bones. We expect, and almost always get, bony union in this location. Occasionally, the amount of callus thrown out is excessive, even interfering with the motion of the joint after union is complete. The cause of this is the fact that the vascular supply to this part of the bone is abundant and is increased by the irritation naturally attending the injury.

The fracture higher up, within the capsule, depends almost entirely for its nutrition upon the vessels of the periosteum, and this membrane is often torn from its connections and otherwise injured, thus interfering very seriously with the blood supply of the part. The vessels of the round ligament help, but not materially, and as a result the vitality of the head of the bone is entirely lost, and a false joint is formed between the parts, and occasionally the head of the bone is entirely absorbed.

Sir Ashley Cooper for a long time taught that bony union of an intra-capsular fracture was imposible, but he found that he was wrong and frankly admitted it in these words:

"For example, when the fracture is through the head of the bone, with no separation of the fractured ends, when the bone is broken without its periosteum being torn, or when it is broken obliquely, partly without and partially within the capsule, I believe that bony union may occur."

Prognosis.

It appears to me that patients meeting with this fracture can properly be divided into three classes.

The first class are the very old whose vitality is low and who can not stand the shock and other necessary and usual symptoms, and are sure to die.

The second class are also old, but have more vital energy, who with proper treatment, or even lack of treatment, get well in the course of time, the treatment of the fracture being always secondary to that of the person.

The third class are comparatively young, who can stand the shock and the treatment necessary. To a patient of this class we can usually promise a fairly useful limb, with strong fibrous or bony union, almost, if not quite, as good as the other. We can also promise him that it may not be quite straight, that it may be from half an inch to two inches shorter than it should be, and that the foot may turn outward when he walks, and it is wise to tell him of these probable possibilities, or he may think we do not know.

Treatment.

The indications for treatment in this fracture, and every other fracture, are to place the broken fragments in apposition and keep them so. This is easier said than done, but

we must always bear in mind the fact that every patient is entitled to just the amount of treatment he can tolerate and no more.

Surgery, like medicine, is one of the uncertain sciences, and this fact is illustrated in no better way than by the usual results in the treatment of fractures.

Impaction of the fragments, in this lesion, is said to be of common occurrence, and we are told by authorities that we are not in any way to interfere with this impaction. Theoretically, this may be all right, but practically it is all wrong. Impaction in this fracture may force the lower fragment—the femur—into an improper position and keep it there, and it certainly means shortening. There are no positive symptoms indicating impaction, but supposing it to be present, how much of it will be left after our efforts at diagnosis followed, probably, by extension and counter-extension?

The splint, apparatus, or appliance, which will help us treat this fracture with satisfaction to our patients, as well as to ourselves, has not yet been conceived.

No one appliance will meet all indications, and I will simply refer to those in general use, without going into detail.

Here we need extension and counter-extension, and "Buck's" extension splint is probably used in this country more than any other, but "Hodgen's" suspended apparatus is fast superseding it. The main points of difference are these:

In the Hodgen's splint the weight of the limb itself is the extending force. The pulley is used, but instead of being at the foot of the bed, as in Buck's, it is in the ceiling of the room, and the traction can be made more or less, by changing the angle of the supporting cord. The ilio-psoas, and other muscles, always tense in Buck's, always antagonizing us, are relaxed, as is also the knee joint. In other words, we are relaxing muscles instead of compressing them—using science instead of force. That the extending force of the Hodgen's suspended split has a certain amount of elasticity, instead of being rigid, as in Buck's, makes these points possible, without in the least interfering with its utility as a splint.

Immobility, which is supposed to be the active principle of all splints, is very much obviated by the use of this apparatus. We are too apt to forget that we are treating muscles, and their functions, as well as bone, and the class of patients we almost always have with this fracture will not bear rigid appliances for any length of time, but with this suspended splint, the patient can move around in bed and help himself in many ways.

The double inclined plane is very useful, but only in exceptional cases.

The plaster of Paris bandage around both hips is heavy, and, although used occasionally, is not a popular dressing and should never be used as a first splint to any fracture: afterward, it can be applied, in some fractures, with great satisfaction. But the padded band, made of surcingle material, four to six inches wide, often gives great comfort in this fracture, and is occasionally the only form of dressing we can use.

Direct fixation of the fragments by metal, or bone, pins or wire, is now used—in fact, almost as a matter of routine—where there is delayed, or non-union, or improper union, where there is a sequestrum, as occasionally occurs in this fracture, when the head of the bone loses its vitality, or where a separation of the epiphysis occurs. In fracture of the olecranon, or patella, it is the operation of choice. The use of the X-ray is here imperative, and the improved surgical technic is such that we may usually expect a favorable result, but when I was a student I was taught that opening up a simple fracture for any purpose whatever was simply making a compound one of it, and using retention material of any kind was merely introducing foreign material into a wound, which naturally enough at that time was considered very bad surgery.

FRACTURES AT THE ELBOW.*

R. A. Ely, M. D.,
Tampa, Fla.

When the writer was a senior at college Dr. E. P. Davis in his final lecture on obstetrics concluded his remarks by saying: "Gentlemen—What you have learned in my lectures, in the laboratory, in the maternity and your actual experiences will constitute 25 per cent of your efficiency in obstetrics—the other 75 per cent must be supplied by your common sense." This statement is almost generally applicable to the science of medicine and particularly to the subject in hand. When Mr. Robert Jones of Liverpool conceived his method of treating fractures about the elbow common sense evolved simplicity. Here was a method that was so uncomplicated that at first many were disinclined to even try it. The father of one of the following cases had to be reasoned with when the writer put up the fracture in this way. He has a poorly functionating, badly maimed elbow that was treated by the anterior splint and when he saw the simple method that was used he perhaps wondered whether he had not made a mistake in selecting his doctor. This method was recommended for all fractures at the elbow excepting fractures of the olecrana, yet in the series following, two of the cases had fractured olecrana besides supra-condyloid fractures, and it was concluded that this position was promising of the best results and the mobility of the joint at this time justifies this conclusion.

Case IV. Showing degree of flexion after fracture and separation of olecranon.

Fractures, like other cases in medicine, run in series and in a few weeks the writer had four elbow fractures in children at the ages of 3, 4, 7 and 11 respectively.

First Case: Impacted fracture of the ex-

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

ternal condyle with olecranon fractured and separated.

Second Case: Supra-condyloid fracture with short lower fragment over-riding shaft on posterior aspect; there was considerable swelling and it was not reduced for 4 days.

Third Case: Supra-condyloid fracture with posterior over-riding of lower fragment.

Case IV. Showing degree of extension after fracture and separation of olecranon.

Fourth Case: Impacted fracture of external condyle with olecranon fractured and separated from its shaft.

It will be seen that two of this series had fractured olecrana and they were all treated the same way after complete reduction.

The dressing was extremely simple. A gauze bandage of suitable width for the patient was cut into double layers between which was placed a layer of absorbent cotton. The edges were sewed with the thread making a comfortable cuff of necessary stiffness at the wrist. This was snugly pinned with safety pins. A wider bandage was used in two or more thicknesses to encircle the neck, this facilitated bringing the hand to the neck to maintain flexion, later by loosening these pins permitted the forearm to be lowered an inch at a time which could be measured by the holes in the bandage. In two cases the hand was gradually approximated to the desired position as the swelling subsided so that in a few days the ball of the thumb was resting on the neck. After complete fixation to its highest point the wrist was left there for ten days. Then lowered an inch every day, every day carrying the arm as high up and flexing it as much as possible. After the arm has been extended in this way until the extreme limit of extension is reached, it must still be protected

by a sling so that there may not be too much extension, forcible or accidental. Then the patient was instructed to gradually carry increasing weights, meanwhile exercising the limit of flexion every day so as to touch the shoulder and other movements ensuring the desired end.

The results in all of these fractures is excellent and the function in each of them is more than could be expected by any other treatment. The boy in the accompaning cuts was the oldest and can throw a ball as hard after three months as ever and has practically nothing to show that he had one of these treacherous fractures.

Conclusions.

1. Fracture of the olecranon in children is no contraindication for the use of Jones' position.

2. This method is extremely simple and the chances of ankylosis are less than any other method.

3. The flexion tends to hold the fragments in better apposition than splints would.

4. From the very beginning the patient is able to feed himself should the other hand become disabled.

A STUDY OF 184 BLOOD EXAMINATIONS FROM THE STANDPOINT OF THE MALARIAL INDEX IN ACUTE FEBRILE CONDITIONS.*

J. S. Turberville, M. D.,
Century, Fla.

In a study such as proposed here one must impose certain conditions in order to make the data as uniform as possible. Also, while not necessary for the establishment of the malarial index, it is desirable to learn other lessons that may present themselves in this study.

This study was begun February 10, 1913, and ended May 11, 1916. The reason for so small a number of examinations recorded will be apparent when the conditions are enumerated. It represents only a small number of the total blood examinations made.

The conditions imposed were as follows:

(1) That quinine should not have been given within a week of the taking of the specimen. This includes all forms of chill and fever tonics.

Table I.

	No	No	No	No	No	No	%	%		Total No
Examined	Males	Females	Whites	Colored	Positive	Negative	Malar	Non Malar		Examined
"	95	89	139	45	57	127	31+	69		184
Infected	36	21	45	12						57
% "	37+	23+	32+	26+						31+

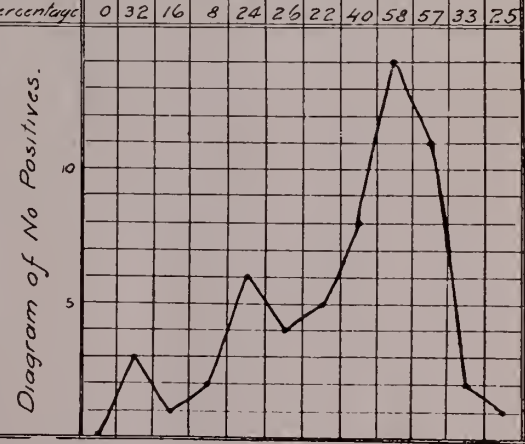
Examination by Months

	Jan	Feb	Mch	Apr	May	June	July	Aug	Sept	Oct.	Nov	Dec
No Exam	11	9	6	23	25	15	22	20	24	19	6	4
No Positive	0	3	1	2	6	4	5	8	14	11	2	1
Percentage	0	32	16	8	24	26	22	40	58	57	33	25

Clinical Diagnosis of Malaria.

No times:	57
" " positive	36
% of correct clinical diagnosis of Malaria	65%
No times no diagnosis was made	62

Youngest person infected: Years	1
Oldest " " "	79
Average age of infected "	24



*Read before the Escambia County Medical Society at Pensacola June 13, 1916.

(2) That the blood be taken and examined without regard to the clinical diagnosis.

(3) That each specimen must be examined for at least half an hour.

(4) That the patients from which the specimens were taken must have fever.

The lessons learned will appear in the discussion of the data. Table I gives the data in tabular form.

I am offering this with an apology for the small number of cases studied. However, I hope someone with more time and ability will take it up and enlarge on it. Now for a consideration of the data.

You will note that 184 blood examinations were made, 95 males, 89 females, 139 whites and 45 colored. Of the 184 specimens examined 57 were found positive for malarial organisms, thus giving a percentage of 34. Of the 95 males examined, 36 were found infected, giving a percentage of 37 plus; the 89 females showed 21 infections, a percentage of 23 plus; 139 were whites with 45 infections, a percentage of 32 plus; and 45 were colored people with 12 infections, a percentage of 26.

Malarial infection was diagnosed clinically 57 times, with positive microscopic findings 36 times, thus giving a percentage of 65 for correct clinical diagnosis.

No clinical diagnosis was made in 62 instances, the other 65, not shown in the table, represents those common every day, easily recognizable febrile conditions found in the practice of the average doctor. I wish here to call your attention to the margin of error in clinical diagnosis, which I think is greater than shown in this series of examinations. This error of 35 per cent or more is one that we should eliminate from our death certificates and from our morbidity lists. This error is one thing that causes discrimination against the South by life insurance companies. I notice in my notes of these cases and blood examinations that I became increasingly inexpert in clinical diagnosis as time went on, as shown by greater frequency of the words "no diagnosis." I do not regard this as a bad sign, but think that I have been made more careful about what I record. This I think is a good argument for keeping case records.

Now I wish to call your attention to the right side of this chart. You will notice that the greater number of examinations were made during the hot months, and that the greater number of infections were found then. You will notice in the graphic representation that there is a rise in February, a fall in March and April, a rise in May, a fall in June and July, a great rise in August and September. The line begins to fall with pretty high index for October, to almost zero in December. I am unable to explain the February high point. May and the latter

Table II—Communities represented in this study.

	Total Examinations.	Positives.	Per Cent.
Century	133	41	30.8
Flomation	11	2	18.1
McDavid	6	1	16.6
Jay	2	0	
Bluff Springs	16	9	56.2
Pollard	1	0	0.0
Pine Barren	1	1	100.0
Foshee	1	0	0.0
Camps (Alabama)	1	1	100.0
Wawbeek	1	0	0.0
Chumuckla	2	2	100.0
Brewton	1	0	0.0
Milton	1	0	0.0

part of August, September and October represent the periods of comparative drouth or infrequent rains following the early spring and summer wet spells. Contrary to what is generally thought, malaria is not frequent during wet spells, for at this time the larval mosquitoes are washed away by big rains. It has been my observation that malarial infections begin about two or three weeks after floods or wet spells.

Since my residence here it has been my observation that we have pretty constantly wet spells in June, July and the first part of August. If we will consider the few cases in the spring months as carriers, and that the big rains in June, July and August are unfavorable for the development of mosquitoes, we have the explanation for the high point of infection reached in September and October.

I show in Table II the localities represented. Century leads in the number of examinations, showing an index of 30.8 per cent. Bluff Springs leads in the proportionate number of infections, showing an index of 56.2 per cent. McDavid and Flomation are near together. However, with a greater number of examinations I do not think there would be any difference in their indices from Century. I think Bluff Springs too high, notwithstanding the fact that this locality has always had a great number of cases of malaria.

Now, does this approach correctness? I can not say, as the study is not based on a sufficient number of examinations. I submit this for what it is worth. No comparison has been made, nor literature examined. My purpose in this study is that I may interest others so that a sufficient number of examinations may be made that approximately correct conclusions may be drawn. I would urge, however, that the same conditions be followed that are laid down in the beginning of this paper, otherwise there will be no uniformity of results, and consequently no means of comparison.

SOME OF THE SYMPTOMS OF PANCREATITIS.*

M. G. Chancey, M. D.,
Tampa, Fla.

An irritation of what has been aptly called the "salivary gland" of the abdomen, a gland situated deep under the upper abdominal viscera in a veritable "hermit kingdom," the natural defenses of which emphasize its importance, the most important gland concerned with digestion, but in spite of its natural defenses it is not invulnerable and when involved in pathology perhaps more often escapes the recognition it deserves than any other viscus of its size and importance in the human body. Its vulnerable points are approached through its duct connections, contiguous infections, and through its blood and lymphatic supply. A gland, the pathologic symptoms of which the internist frequently attributes to catarrh of the stomach, chronic dyspepsia, chronic liver complaints, and chronic malaria, a gland which the average surgeon too superficially explores, but a gland which the surgeon indirectly does more good than he often realizes by his operations on the various foci of abdominal infections in general, and on the biliary passages in particular. A gland, the secondary symptoms of which, being more noticeable than the symptoms of the primary (pancreatic) disease, too often confuses the internist with the result that the majority of these cases in the past have escaped recognition ante-mortem and post-mortem, unless the pathologist looks the situation over microscopically, as illustrated in the case which I am going to report. My certificate gave chronic enterocolitis as the primary cause of death, but autopsy findings proved that pancreatitis, concurrent with or sequential to cholecystitis and cholelithiasis, was the somewhat dubious but undoubted primary disease. The symptoms of cholelithiasis, of cholecystitis and of cholangitis

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

are so much in evidence in so many of these cases as proven by analysis of several hundred cases as to make these symptoms of special interest.

Mr. M., fifty-three years of age, born in Illinois, moved to Florida, lived in Central America, South America, and Cuba for the last twenty-five years. Twenty-three years ago developed typhoid fever and jaundice, two years later had a severe bilious attack with much tenderness over the liver and jaundice, which gradually cleared up in about three weeks. Ten years later he had a biliary colic (?), with agonizing continuous type of pain associated with jaundice. Under the influence of his physician's anodynes and palliatives, the pain and tenderness gradually subsided and in about twenty days he was able to resume his work. He was temperate in habits with the exception of being a heavy eater, indulging freely in hot peppers, raw onions, avocado pears, and all kinds of tropical fruits to which he attributed his indigestion. Seven years ago he noticed his stools gradually changed to a diarrhœic semi-fluid consistency, having from one to eight stools a day. His tongue and mouth became sore at frequent intervals, and the oral irritation and his diarrhœic stools were a source of annoyance, and at times a great discomfort, throughout the succeeding years. He became weakened and emaciated, disabled and bed-ridden for the last eighteen months of his illness. Ulcers were of frequent occurrence on margin of tongue and buccal mucous membrane—his tongue would cleave to the lips and roof of the mouth, and he could only detach it with much difficulty and pain.

His gastric symptoms were at first not so troublesome. An aversion to food existed only when his oral irritation was acute, but he frequently vomited after supper or during the night, and was nauseated more or less daily for the last year of his illness. "Gaseous indigestion" caused him much distress, which was relieved by passing flatus. His stools became semi-solid, almost formed under the use of emetine and bicarbonate of soda, which he said were the first formed stools he had passed in five years, but within two weeks' time lapsed back into the typical frothy diarrhœic stools in spite of emetine. His stools contained much mucous and traces of lientery—they were of a grayish putty color, full of air bubbles, very copious, especially his early morning stools. They were so frothy at times as to float high because of numerous uncollapsed air bubbles. They had the odor of albuminous putrefaction, a fatty, mucoid, greasy coating would line the test tubes and cling to the walls like a thin coating of melted butter. Microscopically the stools were negative to animal parasites, but positive to fat, meat fibers and occult blood, and other undigested food. The urinalysis was negative except for indican and polyuria. The pulmonary, circulatory, and lymphatic systems were negative. The nervous system was negative except ideas slightly of the grandiose variety. His finger nails were unclumped, the extensor surfaces of hands and forearms were rough and irregular, the site of much exfoliation of epidermis. Face and back of neck presented a milder degree of a similar trouble except one or two patches of horny epidermis near the nose, that would exfoliate and at intervals of three or four months recur. Petechial hemorrhages appeared in the skin on these surfaces about thirty days prior to death. The skin presented a sallow and relaxed appearance. The skin of the abdomen was wrinkled and glistening, and markedly relaxed, particularly after passing the copious morning stool and troublesome flatus. He presented the picture of progressive anemia, progressive weakness, and progressive emaciation (from 185 to 90 pounds).

His vision, audition, and olfaction were normal, his genito-urinary history negative. Wassermann reaction negative. His reflexes were all normal. There was no pain that could be detected on palpation anywhere except in the mouth, and occasionally,

distention pains caused by excessive metorism. Necropsy revealed evidences of diffuse enterocolitis, the gall bladder slightly contracted, walls thick and fibrous contained three well faceted stones. The gall bladder orifice of the cystic duct was occluded by a fibrous growth, but the common duct and pancreatic duct were patulous—the pancreas was slightly atrophic and woody hard to palpation. Spleen and liver were slightly contracted.

Abstract of microscopic examination by Dr. Birge showed: "Spleen thickened in capsule and trabeculi, the spleen pulp apparently atrophic but otherwise not markedly abnormal. The pancreas on sectioning showed no normal pancreatic cells in the sections. The fibrous structure of the pancreatic gland fairly well preserved with apparently a large amount of necrotic material —the remains of the glandular cells. Nowhere throughout the sections was there any evidence of a normal pancreatic gland. The growth in the gall bladder referred to above is a fibrous growth showing no evidence of malignancy and is undoubtedly of traumatic origin."

The symptoms of sprue and the symptoms of pellagra compare so beautifully with the symptoms of chronic pancreatitis with its train of toxic and secondary symptoms, as observed in the clinical course of this case, that I but recite the principal symptoms of both sprue and pellagra in reporting it, and remind you that neither of these diseases are recognized as separate and distinct disease entities. On the contrary, they are as yet denied such classification, and further I beg to remind you that if pellagra or sprue is characterized by a condition of symptoms resulting from the ingestion of an unbalanced diet, it is at least reasonable to assume that imperfect digestion of a perfectly balanced diet would be productive of a similar chain of symptoms, and while these two pseudo diseases produce group symptoms of pancreatitis they are of value as diagnostic symptoms only in proportion as we find other associated confirmatory symptoms.

The biliary symptoms constitute another illustration of the group symptom of pancreatitis, and is strongly suggestive of pancreatic disease, as you will see from the group case reports I have procured from men doing surgery extensively, and who are recording their findings for the advancement of medicine. Of ninety-nine cases of cholelithiasis, in 1911 Deaver[1] found forty-five showing alterations in the pancreas. In three cases of acute hemorrhagic pancreatitis reported by Bindsley[2] stones were found in all of them, and all had antecedent pains in upper abdomen at times ascribed to gall stones. In thirty-two cases affected with cholelithiasis twenty-two were operated upon by Kehr[3], eighteen of which showed involvement of the pancreas. In twenty-four cases reported by Korte[4] cholelithiasis existed in twenty-one. In sixteen cases analyzed by Dietrich[5] cholelithiasis was found in operation, or at necropsy in eight. In eleven necropsies at the London hospital on acute hemorrhagic pancreatitis, gall stones were present seven times. In an analysis of one hundred and five cases of pancreatitis Egdahl[4] found in forty-four cases the disease followed gall stones. Of one hundred and thirty cases of pancreatic affections culled from the surgical clinic of the German Hospital in Philadelphia[5], seventy of them showed positive association with cholelithiasis. I infer from the nature of the operations performed, that of the one hundred and thirty-six cases, all except nineteen were associated with, if not caused by, infections of the biliary passages. Osler[23]

---

[1] Deaver, John B., Jour. A. M. A., January 4, 1913, p. 1.

[2] Bindsley, Hospital Stidende, Copenhagen, April 5, Vol. LXII, No. 15, pp. 449 to 480. Abs. Jour. A. M. A., May 23, 1914.

[3] Kehr, Practical Medicine, series 1910, Vol. XI, p. 491.

[4] London Lancet, January 1, 1914, pp. 1 to 58, and the British Med. Jour., January 2, pp. 1 to 56. Abs. in Jour. A. M. A., January 30, 1915, p. 471.

[5] International Clinics, 24th series, Vol. III, p. 219.

[23] McKenna, John B., Providence Med. Jour., November, 1915, p. 323.

found that forty-five out of one hundred and five cases were associated with gall stones.

These clinical cases represent slightly above fifty per cent cholelithiasis relation to pancreatitis. Robson,[6] the pioneer in this work, claims that sixty per cent of his cases of stone in the common duct had pancreatitis. Robson's observations are higher by ten per cent and exclusive of any cases included in the above five hundred and thirty-six cases, which indicates that fifty per cent pancreatic disease relation to cholelithiasis is conservative. If we should include the infections of the biliary passages not associated with lithiasis this per cent would grow higher.

Of seventy-nine cases of pancreatitis operated on in the German Hospital,[7] seventy-two or ninety-one per cent showed infections in the bile ducts. McKenna[8] says: "The Mayos found the pancreas involved in sixty per cent of all their operations on the gall tracts." They also state that eighty-one per cent of pancreatic disease is the result of, or coincident with gall stones, and that in Mayo's experience it was found that pancreatitis was four times as frequent when the stones were in the common duct as when they exist in the gall bladder.

These five hundred and thirty-six clinical cases exclusive of Robson's observations, and exclusive of the seventy-nine other clinical cases, and exclusive of Mayo's findings, should be proof that if we are able to diagnose gall stones by roentgenology, or other means, we should know that at least fifty per cent of our cases are suggestive of pancreatitis even if not declarative of some form of pancreatitis, even if they appear to be entirely latent and in the gall bladder, and if in our gall stone cases we make careful urinalysis and stool examinations a routine matter, we will be able to detect disease of the pancreas earlier which is a matter of great importance, as it is practically homicidal to allow this gland to become much diseased without prompt recognition.

Schmidt[9] says: "Important in making a diagnosis of chronic pancreatitis is the history of a former illness which checks well with the symptoms of acute pancreatitis; that a summary of the chemical tests used for the detection of pancreatic ferments are only confirmatory of stool appearance, and very rarely, if ever, are they diagnostic; that it is of more clinical value to depend upon the evidence of incomplete digestion as found in the stools; that the stools are characteristic of enterocolitis and are secondary to pancreatitis, contain mucus, blood, and undigested food; that the circumspect clinician can clear up the catarrh enough under treatment to eliminate much of the mucus, when he can test for fat, meat fibers, striated and nucleated meat fibers and starch cells, the latter at times so escapes digestion as to react to iodine; that pancreatitis and cholithiasis are a frequent combination of symptoms; that fever if present in chronic pancreatitis is usually due to infections in the bile passages; that of all diagnostic symptoms the bowel movement is of the utmost importance; that bowel movements in advanced cases on ordinary mixed diet are copious and the fat content very apparent; that in the ordinary diet chosen by the patient the fat will cover the stool as if a thin coat of melted butter was poured over it (Schmidt's Diagnostic Stool), a symptom which occurs in the stool of no other disease and is pathognomonic of pancreatitis; that this steatorrhœic stool, in order to be not only diagnostic but pathognomonic, must occur unassociated with excessive ingestion of fats, and must occur while the patient is on ordinary mixed diet of his accustomed choosing."

Now that we have a pathognomonic symptom based on the characteristic greasy

[6] Practical Medicine, series 1909, Vol. II, p. 512.
[7] International Clinics, 24th series, Vol. III, p. 213.
[8] McKenna, John B., A Plea for the Study of Pancreatitis, in Providence Medical Journal, November, 1915.

[9] Adolf Schmidt, Advances in Pathology and Therapy of Pancreatitis, Muenchener Medizinische Wochenschrift, August 4, 1914.

stool, the butter stool, the question of determining the best quantitive test for the detection of fats excreted in the feces for comparison with the fats ingested is important, and the one that requires no microscope, the one that any physician can make within an hour's time, is the test devised by Laws and Bloor:[10] It consists in extracting with acidified alcohol and ether, filtering the extract, then precipitating the fat in a watery solution and comparing the cloudy suspension so obtained with that of a similar standard solution—this is the rapid method of determining fat in the feces.

Schmidt also says: "A transitory glycosuria is suggestive of pancreatitis."

Opie[11] says: "In the eighty-seven per cent of the cases of diabetes we find an affection of the Islands of Langerhans, so that glycosuria, when considered in its relation to other symptoms, becomes an important diagnostic symptom of not only pancreatitis, but the type of pancreatitis, and it appears reasonable to believe that the polyuria of diabetes insipidus is due to a type of non-destructive irritation of the Islands of Langerhans, or to a circumscribed interstitial pancreatitis.

Einhorn[12] says: "If we find a diabetic with great weakness, loss of weight and dyspeptic symptoms, we must think of disease of the pancreas; if, in addition, examination of duodenal contents shows deficient pancreatic activity the diagnosis of chronic pancreatitis is almost certain; that since Opie has found affection of the Islands of Langerhans in eighty-seven per cent of diabetics, we can generally make a diagnosis of chronic pancreatitis in such cases without much difficulty (for it is clear that disease of these islands will lead to secondary involvement of the surrounding tissues of the pancreas); that notwithstanding large quantities of food ingested these patients continue to lose steadily in weight; that pancreon, together with alkali administration because of the beneficial influence in replacing the missing pancreatic secretion, is a therapeutic proof of pancreatitis, and in cases unaccompanied by glycosuria, glucose solution by Murphy drip would prove of value as a therapeutic test for pancreatitis in connection with the above medication."

Darner[13] says: "Although it is a comparatively easy matter to diagnose a severe inflammation of the pancreas, it is not so when the condition has become chronic. Absence of icterus in long standing cases point to a benign shrinking; that Schmidt's test meal with appearance of more than 25 per cent of fat, muscle fibers and azatorrhœa in stools; examination of the ferments with Wolgemuth, Gross, Muller, Jackman, Schmidt's nuclear test, Boldereff's oil breakfast, examination of the stomach after fasting (Darner) and the duodenal pump (Einhorn) all can only show that there is a deficiency of secretion.

In the Roentgen diagnosis calculi causing chronic inflammation can be demonstrated in the pictures, and their findings point to a benign nature of the disease. There is also often seen a well-marked filling of the duodenum, which is well shown in the Roentgen pictures. This symptom is especially present in carcinoma of the head of the pancreas where the duodenum becomes distended around the growth and the duodenojejunal flexure is markedly compressed or angulated."

Schmidt[14], speaking of chronic pancreatitis, finds: "Knowledge of this disease is not so far advanced as in the acute forms of pancreatic inflammation, because operations which would allow an inspection of the organ are much more seldom performed

[10] C. H. Laws, Ann Arbor, and W. R. Bloor, Boston, American Journal Diseases of Children, Chicago, March 11, pp. 177 to 244. Abs. in J. A. M. A., March 18, 1916, p. 918.

[11] Opie, E. L., On the Relation of Chronic Interstitual Pancreatitis to the Islands of Langerhans and to Diabetes Mellitus, Exper. Med.

[12] Einhorn, Max., J. A. M. A., July 10, 1915, p. 153.

[13] Darner G., Indurative Pancreatitis Consequent Upon Cicatricial Formation in the Pancreatic Duct. Deutsch Arch. of Klin. Med., Leipz., 1915, Vol. CXVIII, p. 72.

[14] Schmidt, Adolf, Post Graduate, December, 1913.

in the chronic form; that some physicians doubt the possibility of a sure diagnosis of the chronic form, but he thinks this opinion is wrong and cites a case. Man of fifty had an unexplained attack of severe colic, vomiting, complete obstruction of bowels, slight jaundice, complained of digestive trouble afterwards. Stool formerly normal became gradually abundant, fatty appearance, sometimes diarrhea with mucus, loss of weight. The stool is the only abnormal sign; peculiarities best studied by test diet, abundant, pulpy, perhaps not so dark colored as normal, whole mass covered by thin layer of fat which coagulates immediately after defecation. Extracts of the mass contain no tryptic ferment; indigestion of the nuclei as proved by Schmidt's test is sufficient. Reaction of the feces is acid, urine free from albumen and sugar, but after 100 grams of dextrose given with the breakfast distinct traces of sugar may be seen by Trommer's test that decisive symptoms for diagnosis are given by the features of the feces alone—that expert observers may discover these symptoms in marked cases without using the test diet, but it facilitates a diagnosis of chronic pancreatitis and also makes it sure to the same or higher degree than by chemical analysis of absorption. The loss of weight is proportionate to the diminution of the gland secretion. Schmidt's patient had an earlier attack which looked like hemorrhagic pancreatitis. Pancreatic stones are also symptomatic. The diarrhea begins with short relapsing attacks and ends in a chronic state; functional disorders of the pancreatic secretion are frequently associated with serious digestive disturbances, but in certain organic lesions of the gland we may miss for a long time any digestive defect. The function of the stomach glands may remain undisturbed for a long time. If glycosuria of spontaneous or alimentary character is present it is of great diagnostic value, but it is frequently missing for the reason that the inflammation seldom destroys the Islands of Langerhans—sometimes it appears only in periods of exacerbation. Schmidt says that the authors who published the so-called specific tests of pancreatitis hoped to discover occult cases of the disease, but they all failed although they may complete the symptomatology established by a careful observation of the feces; that the preceding ulcer of the duodenum, or attacks of gall stones may help to clear up a doubtful case. Schmidt says the only trustworthy method of inquiring into the pancreatic ferments consist in aspirating the duodenal contents, that one can not always assume that pains in the upper part of the abdomen originate from the pancreas; that he has never felt a resistance in the epigastric region corresponding to the indurated pancreas, and that he is inclined to believe that such resistances may be referred to infiltrations from ulcers, or gall bladder disease (the causes of pancreatitis) not the pancreas itself, as chronic inflammation of the organ usually leads to its reduction in size.

Sucha[15] finds: "It is not easy to state the symptoms of pancreatitis. The first point is: that the mischief usually occurs only in persons who have suffered for a long time with cholelithiasis. It is not common to find the onset of pancreatitis marked by acute pain. The condition is usually insidious in its developments, but even in cases where pain occurs the patient has already suffered from gall stone colic, either at the time or on previous occasions, and in most cases is caused by a stone occluding the common duct. The simplest method of making a test for trypsin is by placing a half ounce of triturated feces in a small glass and placing therein a Rumpel's Gelodurate capsule filled with powdered charcoal, and keeping at a temperature of 98.6. If trypsin is present the capsule is dissolved and the charcoal is discharged coloring the contents. If absent, the capsule will not be dissolved. Somewhat less direct than these laboratory methods is the inability of the patient to take large quantities of carbohydrates without suffering a considerable amount of

[15] Sucha, Relation of Pancreatitis and Cholelithiasis, West Med. Review, 1914, Vol. XIX, p. 119.

discomfort; that the presence of sugar in the urine in the severer forms of chronic pancreatitis appears to be quite common. The presence of alimentary glycosuria; that is, the appearance of sugar in the urine after the administration of 100 grams of glucose appears also to be common, and is a test that should be more frequently employed.

Haines[16] says: "All agree as to the futility of chemical tests in the diagnosis of acute pancreatitis while a large per cent of failures and a lack of confidence on the part of the discoverers of some of the more prominent tests render that application of extremely doubtful value as symptoms in chronic types of the disease. One of the latest tests is that of Wollgemuth and Noguchi; they found an increase in the amount of diastase in the blood and urine following injuries to the pancrea, and they think it a valuable symptom. Crippling adhesions in the right upper quadrant of the abdomen, empyema of the gall bladder, stone in the common duct, and perforating ulcer of the posterior wall of the stomach, are some of the frequent forerunners and concomitants of chronic pancreatitis. He has not seen a case of chronic pancreatitis which was not associated in some manner with one or more of the above lesions, but it is these factors which become our chief source of error in the scheme of symptoms. Pain, vomiting, and shock may and do present as symptoms in most of the serious intra-abdominal lesions, but in their suddenness of onset, severity and persistence are found the special characteristics of these symptoms when induced by acute pancreatitis. Exploratory incision is the only method of precision in diagnosticating a case of acute pancreatitis.

Barker's[17] clinical study of seven cases of acute pancreatitis reveals the fact that three described similar attacks at long intervals antecedent to the attack for which they sought surgical help. In one case there was history of a very severe abdominal pain and shivering in a prior attack, causing him to roll on the floor, and lasting some hours. In two cases there was much gastric trouble for sometime previous to the attacks, in another there were frequent bilious attacks. The onset of the attack in all cases was strikingly sudden, except one in which four weeks of pain after food elapsed before the condition became grave. Sudden and severe pain in the epigastrium was the first and most prominent symptom. This was always very intense and in one case there was palor and marked cyanosis—the temperature in all was relatively low at the onset. Pulse rapid, gradually increasing while losing tension—vomiting was usual at the onset, but not so prominent a feature later. The vomitus was usually bilious with mucus.

Mehliss[24] summarizes the symptoms of eight cases of acute pancreatitis: Previous history of gall stone colics in which the pain assumes greater intensity, patient cries out with pain. Severe collapse symptoms aided in the diagnosis. Patients speak of peculiarity of the pain, in each of the eight cases, saying that it was intensely greater in degree as compared with biliary colics. In four, there was pain in the left epigastrium in typical location, with no reflex rigidity of muscles in left area. The suddenness and severity of the pain and collapse were significant symptoms. The sudden intoxication, due to fat necrosis, explains the collapse symptoms, which, if accompanied with sugar in urine, makes pancreatitis more certain. The confusing symptom of Ileus, due to peritoneal irritation, was the only symptom in the way of accurate diagnosis in these eight cases. With the above chain of symptoms in fat persons who have had previous gall stone attacks we may assume the condition is acute pancreatitis.

Mayo[25] says, in practicing a routine ex-

[16] Haines, W. D., Pancreatitis as a Factor in Digestive Disorders, Lancet Clinic, Cincin., 1914, Vol. CXI, p. 169.

[17] Barker, Arthur E., Acute Pancreatitis, Lancet, London, 1914, Vol. I, p. 159.

[24] Mehliss, Magdeburg Hospital, April 6, 1915, issue of Muenchener Medizinische Wochenschrift, p. 472.

[25] Mayo, W. J., Cholecystitis Without Stones or Jaundice, in Its Relation to Chronic Pancreatitis, Amer, Jour. M. Sc., 1914, Vol. CXLVII, pp. 469-474.

[27] McNeil, H. L., Diagnosis of Pancreatitis, with Report of Seven Cases, Tex. State Jour. of Medicine, September, 1915, Vol. XI, pp. 227-282.

amination of the contents of the abdomen, he has been surprised to find how frequently the pancreas showed enlargement, induration, and nodulation which would have justified a diagnosis of chronic pancreatitis if some disease of the biliary tract had been the original lesion, but in which there was no symptomatic evidence that pancreatic inflammation existed. Well marked cases of chronic interlobulary pancreatitis involving the head and often the entire pancreas present conclusive evidence of pancreatitis. Such extreme evidences of chronic pancreatitis are seldom found without infection of the biliary tract, but, in cases less marked, the evidence is often insufficient to establish the diagnosis especially when neither gall stones nor jaundice are present. There is still another group of cases in which cholecystitis of the chronic type without gall stones and without jaundice is accompanied by undoubted chronic interlobular pancreatitis. In such cases there is no dilation of the common duct nor is the gall bladder distended.

Loop[26] believes that pancreatitis is not always recognized and that many cases are called acute indigestion; that given a soft glandular organ, with various avenues for infection, producing powerful enzymes, themselves capable of great harm, can it be doubted that acute pancreatitis is more prevalent than is commonly supposed. Pain may closely simulate left renal colic. Pain, severe, sudden, followed, rarely preceded, in a few minutes by vomiting. Distention of upper zone of abdomen, he and many others think, should always excite suspicion of acute pancreatic disease; extreme tenderness, greatest over right rectus, while pain is greatest over left, he believes also is the rule. Constipation, but not total obstruction of bowels, both flatus and feces rewarding efforts to move the bowels, but without giving relief of symptoms, which would be the case in acute intestinal obstruction. Face expresses pain, anxiety and gravest danger; skin palid, dusky hue. No reliance whatever can be placed on glycosuria; that with these symptoms, particularly with a history indicative of gall-bladder disease, diagnosis of acute pancreatitis is at once warranted. A distinctive symptom is, the bowels are not absolutely locked, high enematæ will always produce some result but without relief. Mesenteric thrombosis will be with difficulty differentiated, but in this condition after first onset there is usually an intermission of symptoms for a few hours or a day or so; obstruction of bowels is complete and dark blood is usually obtained with fecal matter washed from lower bowel.

He reports a case on which he operated in which the diagnosis lay between acute intestinal obstruction and acute pancreatitis. Against the first was the great pain and that flatus and feces were passed. Numerous areas of fat necrosis in omentum and mesentery but not in the fat of abdominal wall proved diagnosis correct.

Strong[18] says: "Pancreatitis, both acute and chronic, is more common than is generally supposed, and yet it is probably rare enough to make it wise to put these cases on record as they arise." He had four cases of pancreatitis of the hemorrhagic variety. "A typical case of hemorrhagic pancreatitis runs about as follows: Sudden acute onset, with excruciating pain in the epigastric region between the umbilicus and ensiform cartilage, vomiting and great prostration, facial expression anxious, profuse perspiration, high pulse (110 to 160) with a low temperature, generally not much above 100, rigid abdominal wall, perhaps some distention, and frequently hiccoughs. The bowels may move at frequent intervals, typical yellowish brown stools the consistency of, and looking like fat—the so-called fatty stool—or the bowel action may be absolutely paralyzed. The suffering is intense and one is seldom capable of giving the patient relief."

[26] Loop, R. G., Acute Pancreatitis, With Report of a Case Successfully Diagnosticated and Operated, Buffalo Med. Jour., September, 1914, Vol. LXX, pp. 83 to 88.

[18] Strong, S. Meredith, Long Island Medical Jour., 1914, Vol. VIII, pp. 339 to 342.

The symptoms of acute hemorrhagic pancreatitis overshadows the symptoms of cholelithiasis and biliary colic as surely as the symptoms of biliary colic and biliary infections obscure the symptoms of chronic pancreatitis. I have had two cases that I now think were acute hemorrhagic pancreatitis. I was not able to verify my diagnosis, however, in either case.

The first one, a male, 47 years of age, presented a picture of agonizing pains in the epigastrium, with vomiting. He gave a history of previous coliky pains in right upper abdomen with gas, nausea, vomiting and jaundice, with recurrent attacks of acute indigestion. The present attack, however, was more intense in onset, pains were more of a continuous agonizing type, growing to marked prostration and collapse. His suffering was so little mitigated by anything I did or did not do, and so intense as compared with his former attacks, that he readily assented to calling in a surgeon. Morphia in reasonable dosage, to my surprise, failed to relieve him. Temperature varied from normal to 100, pulse losing in volume and increasing in rapidity. Died in about thirty hours from onset of attack.

My second case, a boy of eight years, was kicked in epigastrium by a horse, and said he suffered like "furyation," vomited repeatedly, and died in thirty-six hours. The intensity of suffering increased, abbreviated respiratory movements, cyanosis, vomiting, low temperature, and rapid pulse, prostration, and threatening collapse, were the most noticeable symptoms.

Murphy[19] says: "The pain of acute pancreatitis is so striking, so much in contrast with anything else, that you just naturally arrive at a diagnosis by the intensity of the symptoms. The pain is prostrating, the attack fulminating—it is far worse than a colic, worse than a perforation, and acute hemorrhagic pancreatitis (and mostly all the acute types of pancreatitis are hemorrhagic in varying degrees) is commonly the sequence of cholecystitis, calculous or noncalculous. It is an acute fulminating lesion —indeed there is no lesion so severe in onset and none that causes such intense continuous pain or collapses the patient so much. It just goes right on paining each second a little more than the second before, and the pain is enormously greater than the pain of perforated gastric or duodenal ulcer. The above symptoms are typical in nearly all details, and the regular course of the disease is, first, the gall stone attack; second, the fulminating hemorrhagic pancreatitis sequential to the cholecystitis and that another form of pancreatitis, the pancreatic cyst, is usually sequential to acute hemorrhagic pancreatitis.

Linder[20] says: "The most striking feature of this condition, clinically, is the so-called acute abdomen with evidence of peritoneal disturbance in the upper abdomen."

McKenna[21] says: "The clinical picture of the acute type of pancreatitis is one which would, at a glance, impress the physician with the gravity of the patient's condition. The onset marked by sudden excruciating pain, deep-seated in the epigastrium. With the pain there is copious persistent vomiting, suggesting intestinal obstruction. However, the vomiting never becomes stercoraceous. Deep epigastric tenderness not detected by light pressure soon follows the pain, the lividness of the lips, the cold extremities, the leaden hue of the entire body, indicate the extreme collapse which is perhaps the most marked symptom."

Barker's analysis of seven cases; Strong's typical symptoms based on four clinical cases; Murphy's recitation of the typical symptoms, and the regular clinical course; Linder's observation of the acute abdomen, and McKenna's clinical picture of verified cases, and the two suspected cases of mine (one the first patient after graduation and Georgia State Board examination) impress

[19] Murphy, John B., August, 1915, Clinics.

[20] Linder, Surg. Gyn. and Obstets., February 20, 1915. Abs. J. A. M. A., March 6, p. 859.

[21] McKenna, Providence Medical Journal, November, 1915.

me with the importance of acute pancreatitis. But if acute pancreatitis is important, chronic pancreatitis is more important. The symptoms of acute pancreatitis either terminate fatally within a few hours, or else shade into chronicity. Acute pancreatitis kills quickly, while chronic pancreatitis kills not so quickly but even more surely, and in greater numbers.

McKenna says, speaking of chronic pancreatitis: "There is usually an antecedent history of indigestion, jaundice is frequently observed and is apt to be more continuous than the jaundice seen in common duct stones. Emaciation is a marked feature. There may be attacks of pain, but the pain is not influenced by the ingestion of food (a striking symptom in differentiation from gastric, pyloric, or duodenal ulcer). In thin subjects it is sometimes possible to detect an enlarged and tender pancreas across the abdomen. The most important sign is the discovery of muscle fibers in the stools, showing pencreatic insufficiency occurring only in pancreatitis." He reports a case: "A middle aged man suffered for a long period from indigestion, then came a period in which he had attacks of pain in the upper abdomen, these attacks of pain became more frequent and were followed by jaundice. Having no thought of the pancreas, a diagnosis of cholelithiasis was made. Operation disclosed a slightly distended gall bladder in which no stones could be felt, but upon palpating the pancreas the head was found to be enlarged and decidedly nodular, giving the impression of malignancy. The gall bladder was opened and drainage kept up for three weeks, with the result that the patient has experienced no further trouble since the operation about five years."

Deaver[22] speaking with special reference to chronic pancreatitis, says: "Pancreatitis is common, not rare. Its presence should be suspected in all cases of obscure upper abdominal indigestion. It possesses, in common with chronic gastric duodenal and biliary diseases, the property of exciting more or less epigastric distress or pain, which may radiate to the hypochondria, or to the back, together with nausea and vomiting. In some cases, when the Islands of Langerhans are extensively diseased, glycosuria is an accompaniment that is easy to recognize, and the most startling development of the last few years is the frequency with which the lesser degrees of pancreatic inflammation are found by the surgeon, particularly in connection with infections of the biliary tract. The mortality of acute pancreatic disease is high and will remain so, the condition is troublesome and treacherous, and the best treatment is prevention which in a considerable percentage of cases consists in timely surgery of the biliary tract * * * The most important message the surgeon has for the profession, as a result of the increase of knowledge of pancreatic disease made possible by the autopsy *"in vivo,"* is the necessity of referring intractable dyspeptics to the surgeon."

In conclusion, I believe this a most important and a much overlooked pathology. We have felt a delicacy in making an unusual diagnosis. We have not been inclined to exercise the needful simple tests that are at our disposal. The internist should be able to reveal the frequency and treachery of the disease. I see no reason why it should not be as frequent and as treacherous as appendicitis. We are largely indebted to the surgeons for having compiled the data that will enable us to diagnose many of these cases in their incipiency.

[22] Deaver, John B., Acute Surg. Diseases of the Pancreas, Phila. Med. Jour., 1915, and Jour. A. M. A., January 4, 1913, p. 1, and Deaver and Pfeifer on Chronic Pancreatitis, reprint from Annals of Surg. for June, 1914.

APPENDICITIS COMPLICATING PREGNANCY.

Charles L. Jennings, M. D.,
Jacksonville, Fla.

Appendicitis in pregnancy is a complication that has been called to the attention of the profession on many occasions by many

writers, but the importance of the condition can not be too strongly emphasized.

Pregnancy is a normal condition, that exists in the female for a period of approximately two hundred and eighty days, and unless complicated by some pathological condition, is without danger to her. The pregnant woman is not rendered immune to any disease, by reason of the pregnancy, but is subjected to certain diseases that are common only to the pregnant state, as the toxemias of pregnancy including eclampsia. In many diseases occurring during the state of pregnancy the rapidity of their course and the mortality rate are increased, such as typhoid fever, tuberculosis, heart, kidney and liver lesions.

The vermiform appendix is familiar to us all from an anatomical and pathological standpoint, but little is known of its physiology. This little portion of the human anatomy is more commonly dealt with surgically than any other portion of our make up. Acute or chronic inflammation of it is known as appendicitis, and produces certain symptoms which are more or less familiar to all of us. The appendix is predisposed to disease by its anatomical structure and location. Some authorities give an additional blood supply to the appendix in some females, as a branch of the ovarian artery, in the appendiculo-ovarian ligament; here there is a direct connection between the female generative organs and the appendix, through the circulation; hence the appendix may be infected from the generative organs. While the appendix is always an abdominal organ in the male, at times it is a pelvic organ in the female. The causes for appendicitis are variously given. Constipation is given as one of the causes; we know that constipation is much more common in the female than the male and as a rule constipation is increased during pregnancy. Some diseases predispose the individual to appendicitis. No doubt that many of you have seen and some have operated on a case of appendicitis (with all of the cardinal symptoms) and after removal of the appendix, the patient would pass through a typical course of typhoid fever. I once removed an appendix that was distended with pus and in such a state of acute inflammation, with free fluid in the abdominal cavity, that drainage was instituted. Instead of my patient's temperature falling as I felt it should, it steadily rose and my patient passed through a typical case of typhoid fever, giving a positive Widal, the wound healing without the discharge of pus. Acute inflammations in distant parts of the body, as tonsillitis, pharyngitis, pneumonia, etc., often predispose to appendicitis.

Pregnancy *per se* is never a cause of appendicitis, but is not infrequently complicated by appendicitis. Appendicitis complicating pregnancy may be a primary attack, but more frequently it is a recurrent one: pregnancy here may predispose to the attack, in that there is an increased vascularity of the pelvic organs, the appendix having become a pelvic organ, either by reason of its normal location, or it has become a pelvic one due to one or more previous attacks of appendicitis, causing adhesions to the uterus or its appendages. Increased constipation during pregnancy may bring on a recurrent attack.

The diagnosis of this complication is not so easily made during the early weeks or months of pregnancy, as during the latter weeks. The diagnosis during the puerperium is often most difficult. In making a diagnosis, a clear history, laying great stress on the past history as to similar attacks, is very important. Tubal pregnancy of the right side before rupture or abortion occurs is difficult to differentiate; here, fortunately for the patient, our error of diagnosis is shown at the operation, a very unfortunate mistake if the diagnosis is made after rupture has occurred.

Appendicitis complicating pregnancy, whether in the early or late months, is a serious complication and should be looked for by all physicians who do obstetrics. It

is not a rare condition, hundreds of cases having been reported in literature during the last decade and no doubt, like ectopic pregnancy, were numerous before our methods of diagnosis were as complete as today. When a woman, who is pregnant, presents herself for care during the months that she is to pass through before parturition, question her closely, and if she complains of pain and nausea, do not feel that she is having the usual subjective symptoms of pregnancy. At times no doubt many of their pains are exaggerated and at times due to stretching of ligaments or congestion of the ovaries as many have unfortunately been told. Do not feel that we have done our duty in giving her a prescription for a sedative and telling her that she will be all right. Carefully examine her, never be in a hurry with an expectant mother, but use all your means in making a true diagnosis. A very important means in making a diagnosis, where there is any doubt, is the use of the microscope, in making a blood count. It has been said "that a leukocytosis is sometimes found in normal pregnancy." I have never seen it, as the normal pregnancies have never required a leukocyte count in my practice. It is the cases that have pain associated with nausea that do require the aid of the microscope. All works on obstetrics give as one of the subjective symptoms of pregnancy, nausea and vomiting, or morning sickness. This morning sickness very often lasts all day and at times during the night; here we must be careful not to overlook pain with these cases. No doubt that quite a number of cases of hyperemesis gravidum are due to a chronic appendix, many cases are due to toxemia, from other causes, and a few are due to nervousness, as is so often given as a cause. Two cases coming under my care were given immediate relief on the removal of a chronic appendix, with adhesions. In one case the appendix was bound up in a mass with the right ovary and tube and contained a large concretion.

The location and degree of pain suffered varies as in the nonpregnant state. The location of the pain may be influenced by the size of the uterus. Like other diseases complicating pregnancy, appendicitis is more rapid in its course and the mortality is higher. No doubt the mortality rate can be lowered by more careful diagnosis and an early operation.

The treatment in all cases of appendicitis is the same, that is operative. The operation should be done as early as possible after the diagnosis is made. Do not feel that because she has had previous attacks, that you can use palliative treatment and be conservative. It matters not at what month of gestation the patient is, if the diagnosis is made, and operative treatment instituted, the mortality will be less than if the delay treatment is used. The operation does not have any deleterious effect on the pregnancy. The delay or palliative treatment is always dangerous in any case of appendicitis and much more so when complicating pregnancy. In pregnancy, the nearer full term the palliative treatment is used, the higher the mortality. Luckily for the mother, the product of conception and the physician, this complication is more frequent during the early months of pregnancy. Baker quotes Babler as saying "that the mortality of appendicitis complicating pregnancy is the mortality of delay," and this is true.

During the puerperium do not overlook pain and nausea with tenderness over the abdomen. As a rule these cases so closely resemble puerperal sepsis that a diagnosis is difficult and as a rule are treated for sepsis, and diagnosed when the patient is operated on for abscess or general peritonitis. One case occurring in my own practice will long be of service to me.

During the past six years I have had nine cases, seven of which occurred before the sixth month, as follows: four before the fourth month, two during the fourth month, one during the fifth month, the eighth case was during the latter part of the sixth month and was a drainage case. This case had a

post cecal gangrenous appendix and was my first case. This case had been treated by me during the early months of pregnancy for stretching of ligaments, congestion of the ovary and stone in the ureter. The true diagnosis being made after rupture occurred. This patient made a good recovery and went to full term, had a hard labor delivering by breech. The labor developed a ventral hernia, which the patient still has as evidence of a "bum" diagnosis.

The ninth case was one occurring during the puerperium and was my second case. This patient had been treated by another physician during the early months for cramps, indigestion, congestion, etc. I saw the patient while in labor for the first time, and delivered her of a dead baby, the history and appearance of the child showing that it had been dead for ten days. On the sixth day of the puerperium at two a. m. the patient began to have severe pains in the abdomen and vomiting. The pain was of a cramp-like nature and so severe that a hypodermic of morphia was given. I made a diagnosis of infection and had visions of my patient and reputation fast leaving me. In the evening the patient was worse, abdomen greatly distended, pains still cramp-like and continuous vomiting. Turpentine stupes were used, high enemas of soap suds and glycerine given, but patient's condition became worse. The vomiting began to have a fecal odor; then my diagnosis was changed to intestinal obstruction. The patient was sent to the hospital and operated on. A median incision was made; all the small intestines were greatly distended. At the illio cecal valve, an obstruction was located and found to be greatly inflammed and enlarged appendix binding the ilium down and causing a complete obstruction. The appendix was removed and the abdomen closed without drainage. The patient made a good recovery, in spite of her treatment before operation.

In all of my cases there was a past history of one or more attacks. In one case there was a history of five distinct attacks over a period of three years; in this case the appendix was found adherent to the broad ligament and right ovary. This patient had a morning sickness lasting the entire twenty-four hours, associated with cramp-like pains in the right side, low down. The subjective symptoms resembled closely those of ectopic pregnancy, and on bimanual examination a mass was felt in the right side, and a probable diagnosis of ectopic pregnancy was made until a blood count showed a leukocytosis of ten thousand five hundred. An immediate operation was advised and consented to. The patient made a quick recovery and was entirely relieved of pain and vomiting for the rest of her period. This was one of the early cases—three weeks. One case seen by me in consultation and from the past and present history, a diagnosis was made of a post cecal appendicitis. There was a history of three previous attacks. This was a case of pernicious vomiting that was given immediate relief by removal of the diseased appendix.

Summary.

1. Pregnancy is a normal condition, but may be complicated by numerous diseases.

2. Pregnancy is not infrequently complicated by acute or chronic appendicitis.

3. Pernicious vomiting of pregnancy is sometimes due to, or increased by, a chronic appendicitis.

4. Cases of acute appendicitis may and have been mistaken for puerperal infection.

5. (a) The operative treatment has no bad effect on the course of the pregnancy, except in abscess cases; here the uterine wall may form a part of the abscess wall, and may be excited to too frequent contraction from irritations of the drainage tube, thus causing an abortion. (b) There is also danger of hernia in this same class of cases. These complications can be avoided if the diagnosis is made and early operative treatment given before rupture occurs.

6. Pregnancy may excite an attack of appendicitis, but pregnancy *per se* is never the cause of appendicitis.

REPORT OF UROLOGIC CASES.*

E. P. Merritt, M. D.,
Atlanta, Ga.

I have about 80 cases of gonorrheal epididymis to report in which epididymotomy was done under local anæsthesia. Out of this number four were double. Gonorrheal epididymis is very easy to diagnose on account of the gonorrheal history and the very painful condition that is present.

Strapping and applications to the swollen part will not give the immediate and lasting relief, as opening and draining will. There is an accumulation of bloody serum and pus causing pressure and tension and the way to quickly relieve this condition is to drain. The swelling and pain is usually located in the tail or globus minor of the epididymis. Even if it is higher up, if the tail is opened, it will usually migrate down and the conditions be immediately relieved. As for the question of sterility. The side affected will, 99 times out of 100, be sterile whether you open it or not. This little operation will give immediate and lasting relief, put the patient on his feet immediately and everyone concerned is very highly pleased.

Technic: The scrotum is cleaned as for ordinary operation. Grasp the sac firmly, using very little pressure. One per cent cocaine solution is injected 1 to 2 inches in the scrotum bottom part. Then thrust the needle into the tail injecting a few drops. The field for operation is then anesthetized thoroughly. Using a sharp pointed bistoury, open the scrotum for an inch, cutting through the tissues down to the epididymis, then puncture the tail in several places. (Usually you find it hard or bonelike.) After this is thoroughly accomplished, pack with iodoform gauze, removing about 24 hours afterward. Numbers of times the patients will get instant relief. General anæsthesia, unless we have a hypersensitive patient, is not necessary. The operation can be done in the office or home and is very satisfactory in most cases.

Pyelitis.

Uncomplicated cases which get their origin from the colon bacilli, streptococci or staphylococci are ofttimes easily diagnosed by cystoscopic examination. In severe cases you see the efflux of pus from the ureteral orifices. Of course, in very mild cases this does not hold true and other means are employed for diagnostic purposes.

The best and most satisfactory way to treat the above conditions mentioned, according to my limited experience, is pelvic lavage of the affected kidney. Looking over the literature on the subject, it seems to be the opinion of many that this is the best treatment to employ. Some authorities advise autogenous vaccines, while others do not lay much stress on them. Some use one drug and some another, but silver nitrate is used more than any other one.

My method is as follows:

The bladder is washed out thoroughly with a solution of boric acid. The cystoscope passed and catheter introduced into the ureter of affected side to the pelvis of the kidney—4 to 6 c.c. 1-2 per cent solution of silver nitrate is injected through the catheter very slowly. The catheter is then withdrawn and cystoscope removed. This procedure is kept up at intervals of from 3 to 6 days, gradually increasing the strength of the solution up to 3 per cent. In the meantime the bladder should be irrigated daily. The internal treatment, if we want alkaline urine, consists of giving sodium bicarbonate or sodoxyllin for acid urine, acid sodium phosphate with urotropin. I have seen very fine results from this treatment in cases of simple pyelitis. We should pronounce the patient cured only when the urine is free from bacteria.

Exstrophy of the Bladder.

This is a rare condition found. Spooner found four cases in 116,500 examined.

Neudorfer says 9-10 die under 7 years of age. Berger found in 74 cases born with

*Read before the Chattahoochee Valley Medical Association, at Alexander City, Ala., June, 1916.

this condition only 23 passed the twentieth year of life.

"Exstrophy of the bladder, as you see, is not by any means common, but it is well to recognize it for the sake of prognosis. This condition is a hernia of the walls of the bladder, due to developmental defect in the lower anterior abdominal wall, which permits the extrusion and eversion of the vesical mucosa with its accompanying ureteral orifices. The condition arises from the failure of the tissues of the embryo which go to form the abdominal walls to meet in the median line. It is analogous to harelip, cleft-palate and spina bifida. Often a woman with exstrophy is normal sexually. The great mortality is due to malignancy, pyelonephritis, hydronephrosis and pyelitis. I will give a brief report of a case:

Child eleven months old, mother and father living, both in good health with good past histories. Child always healthy and normally developed except this condition which seems to give it very little trouble. The mass appeared just above the vagina leaving only a very small orifice. The ureteral orifices could not be seen. The urine dribbled through the centre of the mass and kept the diaper constantly wet The umbilicus was below its normal site and the pubic bones widely separated.

Treatment: Surgery is the only relief and the success in that is very rare in one of these cases. There are two especial different surgical procedures advised: (1) Plastic operations of the bladder such as covering the bladder with skin flap, etc. (2) Implantation of the ureters into the intestinal tract and ablation of the bladder.

PROPAGANDA FOR REFORM.

Cu-Co-Ba, Tarrant.—From the statements of the circulars, it appears to be one of the copaiba and cubeb preparations which at one time were in vogue as a routine measure in the treatment of gonorrhea. (*Jour. A. M. A.*, Dec. 25, 1915, p. 2257.

Poslam.—The A. M. A. Chemical Laboratory in 1909 found that essentially Poslam consisted of zinc oxide 12.01 parts, sulphur 6.67 parts, corn starch 22.00 parts, tar oil 15.18 parts, menthol and salicylic acid, small quantities; fatty base to make 100 parts. For skin affections which may be benefited by ointments the official ointments are as effective as the proprietary products and have the added advantage of being of known and more uniform composition. (*Jour. A. M. A.*, Dec. 25, 1915, p. 2256.)

The Horowitz-Beebe Cancer Cure.—Dr. J. W. Vaughn, Detroit, Mich., protests against the unauthorized use of his name in connection with the Horowitz-Beebe cancer cure, Autolysin. A private letter written one week after beginning trials with the cure to Dr. Beveridge was made to do service as a testimonial in a lay magazine. (*Jour. A. M. A.*, Sept. 18, 1915, p. 1048.)

Strychnin Not a Cardiac Tonic.—As a result of investigations carried out in the Massachusetts General Hospital at Boston, Dr. L. H. Newburgh concludes that there is no pharmacologic or clinical evidence which justifies the use of strychnine in the treatment of acute or chronic heart failure. (*Jour. A. M. A.*, Sept. 18, 1915, p. 1032.)

Verlie Gatlin Wrinkle Remover.—The Verlie Gatlin Beauty and Wrinkle Treatment was a Denver mail order concern which promised to remove facial blemishes of all sorts and in other ways to make its customers (dupes) beautiful. A postoffice fraud order has been issued against the promoters of this medical fake. (*Jour. A. M. A.*, Sept. 18, 1915, p. 1047.)

Williams' Syrup of Malt.—The Council on Pharmacy and Chemistry reports that Williams' Syrup of Malt is ineligible for New and Nonofficial Remedies because it is an official article marketed under an unofficial title; because unwarranted therapeutic claims are made for it, and because the claims made are apt to lead the public to depend on it as a curative agent in serious diseases. (*Jour. A. M. A.*, Sept. 4, 1915, p. 895.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.

Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.

Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.

GRAHAM E. HENSON, M. D. ..... *Jacksonville*

ASSOCIATE EDITORS.

THOMAS TRUELSEN, M. D. ..... *Tampa*
J. K. SIMPSON, M. D. ..... *Jacksonville*

COLLABORATORS.

RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa ..... *Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville ..... *Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville .... *Eye, Ear, Nose and Throot*
J. L. KIRBY-SMITH, M. D., Jacksonville ... *Dermotology*
E. G. BIRGE, M. D., Jacksonvllle ..... *Bacteriology ond Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.

E. W. WARREN, *M. D.*, President ..... *Palatka*
JOHN A. SIMMONS, M. D., First Vice-President ..... *Arcadia*
E. VAN HOOD, M. D., Second Vice-President ..... *Ocala*
JOHN LONG, M. D., Third Vice-President ..... *Lake City*
GRAHAM E. HENSON, M. D., Secretary-Treasurer ..... *Jacksonville*

EXECUTIVE COMMITTEE

R. H. MCGINNIS, M. D. ..... *Jacksonville*
JOHN MACDIARMID, M. D. ..... *DeLond*
R. N. GREENE, M. D. ..... *Chattahoochee*

COUNCILLORS.

First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920

Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917

Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917

Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville .. 1918

Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala .. 1919

Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa 1919

Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna 1918

Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920

Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918

Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia 1920

Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West 1917

COMMITTEE ON SCIENTIFIC WORK.

F. C. MOOR, M. D. ..... Tallahassee
C. D. CHRIST, M. D. ..... Orlando
F. F. FERRIS, M. D. ..... Apalachicola

Next Meeting — Atlantic Beach — May, 1917

PERPETUATING PATENTS BY TRADE NAMES.

The patent on aspirin (granted Feb. 27, 1900) (acetylsalicylic acid), controlled by the Bayer Company, American representative of the Farbenfabriken of Elberfeld Company, will expire next year (1917). *The Journal* has previously stated that the grant of this patent was regrettable and worked injustice to American citizens. It is unnecessary again to go into the grounds for this statement; neither in the Farbenfabriken's home country, Germany, nor in any other country except in the United States, has a patent been granted for this product. Owing to their monopoly, the manufacturers have been able to exact a much higher price for acetylsalicylic acid, or aspirin, in this country than elsewhere. Naturally, the Bayer Company, the American agents, view with disfavor the prospect of being compelled to share this rich field with competitors. The foregoing furnishes the answer to inquiries which have reached us from all over the country with regard to the campaign of publicity which the Bayer Company has inaugurated in the lay press. A presumably authentic and apparently candid exposition of the methods used and the motives behind the aspirin advertising is furnished in *Printers' Ink*:

"The manufacturers of aspirin are about to launch an extensive advertising campaign to clinch the market as far as possible before the expiration of their patent rights next year. . . . . The purpose of the campaign is to identify the product with the trademark of the Bayer Company and to this extent hamper competition after the expiration of the patent."

The business of the Bayer Company, the article goes on to say, has been hurt by the sale of worthless or even harmful imitations put on the market by irresponsible and unauthorized persons when the present war stopped importations from Germany.

"The public knew aspirin, *but did not know who made it* (italics ours). * * *

When the Bayer Company, Inc., took over the manufacture of aspirin in this country, the first steps were taken to identify the product with the firm who made it. * * * Of course, there are good reasons why the makers were loth to advertise the product or to exploit their trademark. As every one knows, the advertising of a medical proposition is an extremely ticklish subject * * It is easy to make a misstep. Aspirin is one of those proprietary drugs that are extensively prescribed by physicians. If anything were done that might possibly associate this drug with the patent medicines that are in disfavor with the profession, the valuable influence and cooperation of thousands of doctors might be lost. It is believed that this knotty phase of the question is being answered in the present advertising. * * * Since nothing is mentioned about 'medicine,' 'cures' or 'ailments,' it is anticipated that there will be but little objection to the copy. All that the advertising attempts to do is to link up the name 'Bayer' with aspirin. * * * The nearest the copy gets to medical talk is in this sentence in very small type at the bottom of the advertisement, 'The trade-mark "Aspirin" (Reg. U. S. Patent Office) is a guarantee that the monoacetic acid ester of salicylic acid in these tablets is of the reliable Bayer manufacture."

From this it appears that, not content with seventeen years of monopoly, the aspirin people are attempting to retain a hold on the market *in perpetuo* by associating the name of the company with the trade name "aspirin." There can be no better time than the present, therefore, for the medical profession to substitute, for the nondescriptive name "aspirin," the descriptive and correct name acetylsalicylic acid.—*Journal of the American Medical Association.*

MEDICAL CORPS, U. S. NAVY.

The next examination for appointment in the Medical Corps of the Navy will be held on or about October 23, 1916, at Washington, D. C., Boston, Mass., New York, N. Y., Philadelphia, Pa., Norfolk, Va., Charleston, S. C., Great Lakes (Chicago), Ill., Mare Island, Cal., and Puget Sound, Wash.

Applicants must be citizens of the United States and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School. During this course he receives a salary of $2,000 per annum, with allowances for quarters, heat, and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

MAKING GOOD INDIANS BY HAVING NO SICK INDIANS.

Shortly after Franklin K. Lane became Secretary of the Interior, it was decided that a sick Indian is an economic loss not only to himself but to his family and his tribe. Therefore a consistent effort has been made to introduce preventive measures on preservations, to improve insanitary conditions and to provide treatment.

The wide-spread prevalence of tuberculosis and trachoma among the Indians has made necessary most vigorous efforts to meet the health conditions on the several reservations. To this end earnest efforts have been made to afford better hospital facilities, the number of such hospitals hav-

ing been increased from 53 in 1912 with a capacity of 1,256, to 74 in 1915 with a capacity of 2,045, and more are contemplated.

Substantial increases have also been made in the number of field matrons and nurses, and an attempt made to furnish the best practicable service with the appropriations that Congress would make possible.

In view of the wide-spread prevalence of trachoma, and tuberculosis as reported by the investigation of the Public Health Service, ophthalmologists have been increased in number from three to seven, and the number of regular agency physicians increased from 89 to 130, and contract physicians from 53 to 76.

The appropriation for relief of distress has been increased from $200,000 to $350,000, the amount covered by the present bill.

Dentists for Indians.

Modern thought having indicated the importance of well-cared-for teeth, seven traveling dentists have been employed whose duty it is to keep the teeth of the children enrolled in Indian schools in the best condition practicable.

In an effort to improve the sanitary surroundings under which Indians must live, campaigns for sanitary clean-ups have been waged on the various reservations.

The importance of bringing about a real improvement in infant mortality if the Indian is to be perpetuated has been recognized, and an earnest campaign has been instituted and is now in force to save the babies. This campaign has brought out the most cordial cooperation on the part of all employees in the service, and while the results can only be shown after a period of years its effectiveness is even now apparent.

Some New Hospitals.

In Montana a hospital has been constructed and equipped on the Blackfeet Indian reservation, and a house-to-house health campaign has been conducted by a corps of experts with a view to improving conditions among these Indians.

On the Crow reservation a new hospital has been erected and equipped. A camp hospital has been erected on the Flathead reservation and a building on the military reservation at Fort Spokane has been remodelled into a hospital. On the Western Shoshone, Idaho, reservation a day school is being remodeled into a hospital.

The Indian is turning more and more to the white man's physician and his medicine and the day of the Indian medicine man is rapidly passing on every reservation. This condition is due to the energetic and enthusiastic health campaign enforced by this administration.

FRAUDULENT INFANTILE PARALYSIS "CURES."

The Department of Agriculture Instructs Food and Drug Inspectors to Watch Interstate and Foreign Shipments for Fraudulent Remedies.

Officials of the Department of Agriculture charged with the enforcement of the Food and Drugs Act expect that the outbreak of infantile paralysis will tempt unscrupulous persons to offer for sale so-called "cures" or remedies for this dread malady. They, therefore, have issued special instructions to the food and drug inspectors to be particularly alert for interstate shipments or importations of medicines, the makers of which allege that they will cure or alleviate this disease, for which, at the present time, no medicinal cure is known. The officials also warn the public that any preparation put on the market and offered for sale as being effective for the treatment of infantile paralysis should be looked upon with extreme suspicion. Inspectors, accordingly, have been instructed to regard as suspicious, and to collect samples of, all medicines in interstate commerce for which such claims are made. Makers of such fraudulent remedies will be vigorously prosecuted whenever the evidence warrants action under the Sherley Amendment to the Food

and Drugs Act. So-called remedies for infantile paralysis which are offered for import into the country will be denied entry.

The food and drug officials are particularly watchful in this instance because it has been noted in the past that whenever a serious epidemic exists, unscrupulous dealers prey upon the fear or ignorance of the public by flooding the market with worthless, hastily prepared concoctions, for which they assert curative properties which have no foundation whatever in fact. In the present instance, inspectors already have discovered shipments of a few such mixtures.

The department will do everything it can under Federal law to protect that portion of the public which is extremely credulous in times of panic and which will grasp at anything which promises protection or relief. The sale of such products at this time, the officials point out, is particularly threatening to the public health because many persons, relying on the false statements of imposters, neglect to secure competent medical advice. As a result, not only is the safety of the patient endangered, but in the absence of proper sanitary precautions, the likelihood of contagion is greatly increased.

It must be understood, however, that the Federal Food and Drugs Act applies only to products which are shipped in interstate commerce, that is, from one State to another, or which are offered for import or export, or which are manufactured or sold within a territory or the District of Columbia. Products which are made and consumed wholly within a single State are subject only to such State laws as may apply and are under the control only of State health officials. The Federal law does not apply, for instance, to patent medicines made within the State of New York and sold in New York City. Persons buying or using a "remedy" made in their own State, therefore, must rely on the protection accorded them by their local health authorities.

Obituary

John B. Maloney, M. D.,
of Key West.

Dr. John B. Maloney died at the Kensington Hospital in Philadelphia on August 7th after an illness of several weeks.

Doctor Maloney was a native Floridian, having been born at Key West November 27, 1867. Attending the public schools of Key West, he continued his literary education at Bingham School, Asheville, N. C., later entering the medical department of the University of Pennsylvania, receiving his degree from that institution in 1890.

He returned to practice his profession in his native city and soon became endeared to the entire community, enjoying a large and lucrative practice—being a hard worker and close student. He did not, however, confine his activities to medical work but soon became interested in the general affairs of his home municipality. In 1897 he was elected mayor of Key West, holding office during the strenuous days of the Spanish-American war. He also sat on the Board of Education for three years, was a member of the Florida Medical Examining Board for a term of years, and also served as port health officer. Always having an interest in organized medicine, he was an active member of the American Medical Association, the Southern Medical Association, the Florida Medical Association and the Monroe County Medical Society.

In the death of Doctor Maloney Florida has lost an energetic and useful citizen. The sympathy of the medical profession goes out to the bereaved family left to mourn him.

NEW YORK STATE CIVIL SERVICE COMMISSION.

The New York State Civil Service Commission calls attention to the opportunities offered to qualified physicians for appointment to positions in the medical service in State hospitals, prisons, and charitable institutions.

Although the salaries offered seem to afford adequate compensation the number passing the examinations has not been sufficient to meet the needs of the service. An examination was recently held for prison physician, salary $2,000, but the number of competitors was very small and no one passed the examination. An examination for assistant physician in the prisons, salary $1,500, held at the same time produced only two eligibles. An examination for assistant physician in the State hospitals held January 22, 1916, produced eighteen eligibles but the list was practically exhausted before July 1st. Another examination was held July 15th but only eleven competitors were secured.

This position carries an initial salary of $1,200 with maintenance including quarters, board, laundry, etc., and the salary is automatically increased $100 a year until $1,600 is reached when opportunity is offered for promotion to the next higher grade, senior assistant physician, at $1,800 and maintenance.

The State Hospital Service really offers a career, as there is a regular line of promotion for the medical staff from assistant physician to the position of superintendent.

Anyone interested in these examinations should write to the "State Civil Service Commission, Albany, N. Y.," for information.

Reviews from Current Literature

INFANTILE PARALYSIS

Lovell, W. R., A Plan of Treatment in Infantile Paralysis. J. A. M. A., Vol. LXVII, 1916, p. 421.

This paper is a plea for a definite uniform plan for the treatment of infantile paralysis in all of its stages. The stages are as follows:

1. The acute attack which may be assumed to end when the tenderness has disappeared, a duration of from four weeks to three months. During this tenderness it is not physioligically reasonable to excite the peripheral connections of the affected nerve-centers by massage and electricity. Rest is the physiologic requirement, and the method of treatment that in practice works best. There is evidence that the use of hexamethodenamin in monkeys diminishes the risk of infection, but has no effect after the paralysis has occurred. During this stage the patient should be kept quiet. Joints will not stiffen, hopeless muscular atrophy will not occur, and by this proceeding the damaged cord will have the best chance to repair. Deformities should be prevented by keeping the feet at right angles to the legs to avoid the most common deformity, a dropped foot.

2. The second stage, or phase of convalescence, may be assumed to begin with the disappearance of the tenderness and to last two years or more, at the end of which period the disease has become more or less stationary. During this period the hemorrhagic myelitis is subsiding, the perivascular infiltration is being absorbed, etc. This is the period of "spontaneous improvement," which begins when the tenderness disappears and lasts almost indefinitely, diminishing in its rate as the months pass. Our problem at this stage is to restore the maximum function to affected muscles which are more often only weakened than paralyzed.

When the acute stage is over, it is on the whole desirable to get the patient on his feet, that is, to institute ambulatory treatment. The upright position induced by ambulatory measures is desirable because the effort to balance on the feet instinctively excites to effort a large number of muscles

not otherwise to be reached, and is a valuable form of muscle training.

If the patient can walk without braces, so much the better. If apparatus is needed to permit ambulatory treatment, it should be used, but worn only in walking and in early cases not continuously. A good general rule with regard to apparatus is that it should be used when the patient can not stand without it, or if in standing or walking a position of deformity is assumed, because deformity leads to stretching of soft parts, and if persisted in to permanent bony changes. Massage apparently retards muscular atrophy and promotes muscular tone. More than this, however, is not to be expected of it. Its overuse is probably responsible for much harm.

Electricity has been much discussed. In many years' experience in treatment with and without electricity (used often on one side only with the other side as a control), the writer has never been able to satisfy himself in a single case that it was of any value.

Heat is of value either as radiant heat from electric bulbs or by some form of oven, because it raises the temperature of the limb, and thus offers more favorable conditions for muscular contraction, and because it stimulates the flow of blood to the limb.

Muscle training is the measure of greatest value at this stage. It attempts to drive an impulse from brain to muscle to enable it if possible to open up new paths around affected centres in the cord, for the connection between these centres with each other and between the centres and the muscles is most extensive and complex.

Deformity occurs in many forms but the therapeutics of it are easily formulated. In the earlier stages it is generally to be avoided by preventing persistent malposition. If fixed deformity exists it must be removed before undertaking treatment, nonoperative or operative. The neglect of this rule is one of the most frequent causes of failure of treatment. Remember, the mildest measure that will suffice is the soundest and best.

Fatigue and overtreatment by massage and exercises are detrimental factors of the highest importance too little attended to. This has been especially brought out by the studies by means of the muscle test, which has shown that a surprisingly small amount of excerise was detrimental to convalescent muscles, and in some muscles returning power has been wholly abolished by overuse. The advice often given to use affected limbs as much as possible is the worse advice that can be given. It is difficult to underuse such muscle, but fatally easy to injure them by overuse.

3. The third stage is usually called the stationary stage, and begins about two years after the onset. The dominant requirements of this stage are operative and are, first, the correction of deformity, and, second, operations to improve function and secure stability. Operations to improve function are by all experienced surgeons deferred until at least two years after the onset in order to permit recovery of muscular power to become as great as possible and to enable the mechanical conditions in the affected limb to become clearly defined before operating. T. T.

WASSERMANN REACTION IN PREGNANCY

Falls, F. H., and Moore, J. J.: The Value of the Wassermann Test in Pregnancy. Journal A. M. A., 1916, Vol. LXVII, p. 574.

This report is based upon a study of 160 cases in the obstetric ward of the Cook County Hospital, Chicago. The author's conclusions are as follows:

"The Wassermann reaction is of great value in diagnosing syphilis in pregnant women in whom the condition is usually latent.

"The diagnosis of this condition in mothers with the institution of proper treatment will prevent the increase of syphilitic children and those born can be properly treated as early as possible.

"The majority of mothers having syphilis are ignorant of their condition and are therefore improperly treated.

"In a series of 160 pregnant women we found 11.3 per cent positive Wassermanns.

"In 116 married women 10.6 per cent gave a reaction.

"In forty-four single women 13.5 per cent gave a positive reaction. White women were positive in 9.5 per cent of cases; colored women in 28.5 per cent.

"Only one of eighteen giving a positive reaction had a history of syphilis; six gave histories of previous abortions; three had severe complications of pregnancy, as eclampsia and mental psychoses." G. R. H.

CREOLIN IN SCABIES

Montgomery, Douglas W.: Creolin in Scabies in the Infant. Archives of Pediatrics, July, 1916, Vol. XXXIII, p. 525.

Since scabies in infancy calls for a non-irritating parasiticide, in this respect creolin is admirable. While sulphur is the best remedy for scabies, it is often too irritating for use in infancy.

Balsam of Peru is not quite so good and is difficult to obtain absolutely pure. Betanaphthol is effective but often causes toxic results when locally applied. The author claims good results from the use of creolin 10 parts, green soap 30 parts, and benzoinated lard 60 parts. The green soap may be omitted if it proves irritating.

J. D. L.

ASTHMA IN CHILDREN

Talbot, Fritz B.: Asthma in Children, Its Relation to Anaphylaxis. Boston Med. and Surg. Journal, Aug., 1916, Vol. CLXXV, p. 191.

The histories of most cases of asthma in early childhood show an hereditary predisposition to allergy. The majority of young asthmatics show a sensitization to some form of foreign protein, which peculiarity may be inherited or acquired. This food idiosyncrasy is directly responsible for most of the asthmatic attacks. Often more than one foreign proteid is badly tolerated, and the management of the case is rendered unusually complicated. It is important to ascertain what form of protein constitutes the etiological factor; and this may be accomplished by scarifying the skin and applying directly the suspected protein food. If the child is sensitive to the food in question a positive reaction, characterized by the development of an urticarial wheal with an irregular outline surrounded by a pink blush, develops within from two to ten minutes. On obtaining a positive skin reaction for a particular foreign protein and withdrawing this protein from the diet a good result is almost invariably secured. If the patient is sensitive to too many forms of protein it is necessary to induce an artificial immunity to the sensitization by giving gradually increasing doses of the offending protein foods. J. D. L.

CONSTIPATION IN INFANTS

Jackson, J. B.: Constipation in Infants. Journal Michigan State Medical Society, Aug., 1916, Vol. XV, p. 369.

The author enumerates as the more common causes of constipation in infancy the abuse of cathartics, gastric indigestion, insufficient food, anal fissure, constipation in the mother, too much fat, too little sugar, too little water and boiled milk.

Through determining the cause of constipation a rational hint of the therapeutic management is afforded.

Probably the most frequent cause of this trouble is the abuse of laxatives and cathartics, drugs of this class being given for almost all conceivable conditions in infancy. Attention is called to constipation on the part of the mother as being a condition often overlooked in the management of a constipated nursling. The use of boiled milk is commended but its use should be supplemented by orange juice, meat juices and broths. The dietary treatment is of vastly more importance than drug therapy. It is but seldom that drugs should be employed in this condition. Milk of magnesia seems to be the best drug when a laxative is indicated. Castor oil, senna and cascara should but seldom be employed. Regular habits as to stools should be cultivated even in early infancy, and the employment of enemata and suppositories should be objured. J. D. L.

THE CRANIAL NERVES

Kæmpfe, Louis T., The Accessory Sinuses of the Nose in Their Relation to the Cranial Nerves; The Laryngoscope, Vol. XXVI, 1916, p. 1050.

The nasal accessory sinuses are not fully developed until after puberty and although accessory sinus disease occurs in children, it is much more common in adult life.

The author reviews the topography of this region and explains the anatomy at length.

Berger was the first to point out the relationship between the accessory sinuses and the optic nerve.

The first nerve (olfactory) is nearly always affected either through the congestion of the mucous membrane in which it lies or directly by extension of the infective process.

The second nerve (optic) is the most important with which we have to deal in this connection. It may be affected by (a) "extension of the inflammatory process; (b) by pressure from an orbital cellulitis or an orbital phlegmon; (c) by changes in its circulation." The path of the infection may be either by direct continuity through the bony wall or by way of the lymphatics that pass through the cribriform plate; or by way of the veins. In severe cases the picture is one of a fulminating neuritis with severe pain and rapid and complete loss of vision. In the less severe cases there is amblyopia, central scotoma, color scotoma and contraction of the visual and color fields. The preservation of vision and even of life is dependent upon prompt intra-nasal operation.

Disease of the sphenoid is the one which most frequently affects the optic nerve.

The third, fourth and sixth (oculo-motor) are affected from this same cause and many cases of oculo-motor paralysis have been reported from this cause. Relative to the fifth nerve (trigeminus), many cases of very severe facial neuralgia have been reported and the dreaded gasseria ganglia operation has been avoided by timely interference in the sinuses.

Conclusions.

1. Involvement of the nerve trunks and ganglia is possible by direct extension or by way of the blood and lymph streams.

2. The sinuses depart in their anatomical relations from the classical description and their variation may cause unusual and apparently unrelated groups of symptoms.

3. Symptoms of nerve involvement may be the signs of profound involvement of important structures.

4. Early operative measures in diseases of the accessory sinuses would prevent most of these cases from getting beyond the confines of the nose. W. S. M.

PATHOGENIC YEASTS

Grover, Arthur L.: Yeasts, Probably Pathogenic, in Throat Cultures. Journal Infectious Diseases, July, 1916, p. 89.

Grover calls attention to the large proportion of throat cultures which show yeast-like organisms. He examined 90 cultures and gives tables of cultural characteristics, both in ordinary media and special sugar media.

Fifty-six of these were apparently yeasts; three were of the oidium group; two leptothrix; twenty were molds; in nine cases no fungus was recovered.

He has recovered seventeen distinct varieties of yeasts. These were tested in guinea pigs. All but four gave lesions, general glandular involvement when inoculated subcutaneously. When inoculated into the abraded mucus membrane they gave a dirty yellow false membrane of greater or less extent.

He concludes that yeasts are a factor in so-called throat infections, particularly when convalescence from diphtheria is prolonged or complicated. E. G. B.

Publisher's Notes

HAY FEVER AND ITS COMPLEXITIES.

Because of the protean manifestations of hay fever and its irregular appearance, either as the early-summer variety or the so-called autumnal catarrh, it is evident that

no single therapeutic agent can eliminate, or even modify, the symptoms in all cases. Each individual sufferer presents problems that pertain peculiarly to himself, and other than the vasomotor relaxation of the upper respiratory tract, which is common to all, there are no uniform underlying pathologic changes.

These cases may be divided into three classes: those in which the neurotic element is the predominating feature; those wherein a general systematic condition, as lithemia, seems to stand out conspicuously, and—much the largest class—those in which the affection is intimately associated with the presence of pollen in the atmosphere.

Undoubtedly the suprarenal substance, in the form of its isolated active principle, Adrenalin, is one of the most reliable agents for the treatment of hay fever. Experienced physicians assert that it successfully controls the symptoms in a large majority of cases. Adrenalin chloride solution and Adrenalin Inhalant are the preparations most commonly used, being sprayed into the nares and pharynx. The former should first be diluted with four to five times its volume of physiologic salt solution. The latter may be administered full strength or diluted with three to four times its volume of olive oil.

A NEW CORPORATION.

Announcement has just been made of the formation of a new corporation, called the Victor Electric Corporation, which has purchased the business of the following firms:

Victor Electric Company, Jackson Boulevard and Robey Street, Chicago, Ill.; 110 East 23rd Street, New York.

Scheidel-Western X-Ray Company, 737 West Van Buren Street, Chicago, Ill.; 110 East 23rd Street, New York.

Macalaster-Wiggin Company, 66 Broadway, Cambridge, Mass.; 154 West Lake Street, Chicago, Ill.; 110 East 23rd Street, New York.

Snook-Roentgen Manufacturing Company, 1210 Race Street, Philadelphia, Pa.; 110 East 23rd Street, New York.

The purpose of the new corporation is to continue the respective business policies of the above mentioned concerns, and by the elimination of waste and the development of cooperative service, be better able to serve more efficiently the interests of the medical profession.

The sales and service organization will be much more comprehensive than heretofore, it being the plan to continue all of the present branch offices and open new ones in all sections of the country so that ultimately no member of the profession, no matter where located, will be more than a few hours distance from a trained man, who can render intelligent and efficient service.

By maintaining a research department to cooperate with the profession in the development of this science, it is expected that more rapid progress can be made than has been heretofore, and a greater cooperation secured with the profession as a whole.

The new corporation announces that it expects to conduct its business in an entirely ethical manner, believing that there is a standard of ethics in business that conforms exactly with our ethics and traditions.

It is also the purpose of the new corporation to make every customer feel that the pleasant relations existing between them and the various firms will be continued. They wish it to be known that repair parts and supplies for the apparatus of the constituent concerns may be obtained at any of the afore-mentioned addresses.

The stabilization of this industry is another great advantage which, with the added economy of production, assures the profession of the greatest values and a conduction of the business along sound financial lines.

The names of those associated with its management, who formerly had charge of the respective merged companies, are men of high calibre and recognized ability and warrant us in wishing the new corporation the best of success.

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, October, 1916 Number 4

ORIGINAL ARTICLES

THE CANCER PROBLEM.

HOWARD CANNING TAYLOR, M. D.,
New York.

There is in my opinion no more important problem before civilized countries today than that of cancer.

The frequency of the disease, the number of deaths resulting from it, of which deaths many could have been prevented by right treatment at the right time, raises the question: Are we as a profession using such knowledge as we have in regard to cancer to the best advantage in the interest of the public? Is it possible for us to diminish the high death rate from cancer? It is my opinion that we are not doing all that we should do—that the cancer death rate can be lowered and that we as a profession are to blame if we do not do for the public all that we are able to do. The object of this paper is to give you my ideas of the ways by which the cancer mortality can be lowered.

Frequency: In the United States Registration Area there were in 1912 over 46,000 deaths recorded from cancer of different organs. In the same proportion in the entire United States there would have been approximately 75,000 deaths from cancer during the year. This was at the rate of one death from cancer in each 18 cases. This was about one-half the total number of deaths from tuberculosis.

Cancer under the age of 30 is relatively rare. If we consider only the cases that have passed the age of 30 years, there was one death from cancer to each 11.5 deaths from all causes. Let us bring these figures closer home. There were in the state of New York in 1912 106,000 deaths from all causes, of which 6,000, or 1 in 18, were from cancer. Of the cases beyond the age of 30 years there was one death from cancer to each 12 deaths from all causes. Of all deaths after the age of 30 years, one male in 14 and one female in 8 was the result of a malignant growth. After the age of 30 years there are more deaths from cancer than from tuberculosis.

There is another point to be noted in regard to cancer deaths. They occur at an age when the individual is of the greatest value to his family and to the community. The death of a child from tuberculosis or other cause is a distressing occurrence and it is not to be belittled, but the removal of that child is not as serious a matter to the family or to the community as the removal of the father or mother who are responsible for his support and care.

There is nothing new to you in these figures. They serve, however, to recall to you the great frequency of cancer as a cause of death and to support my belief that the reduction of the cancer mortality is one of the most important medical problems with which we have to deal.

Is cancer on the increase? There is no question that the percentage of deaths recorded from cancer is constantly increasing. For example: In England and Wales in 1840 the ratio of cancer deaths to the deaths from all causes, as reported by Williams, was 1 to 129; in 1905 it was 1 to 17. It is claimed by some observers that this indicates a definite increase in the frequency of cancer; others claim that the increase is apparent and not real, that there is a larger recorded death rate from cancer because of more correct diagnoses, that formerly many cases that died of cancer were not correctly diagnosed and were recorded as having died of some other disease. It is also urged that

as there are fewer deaths in childhood more people live to the cancer age. Unfortunately there are no statistics available with which to absolutely controvert these arguments. As a matter of fact, however, the physician of 50 years ago was a skilled observer of disease. He did not have the benefit of modern laboratory methods and could not make as early a diagnosis of a malignant condition as can be done today, but he could diagnose the terminal condition. He undoubtedly made some mistakes, but our modern pathologist is not infallible. Certainly so far as external cancer is concerned, such as cancer of the face, mouth, breast, uterus, etc., the terminal stage was diagnosed by the physician of 50 years ago too well for us to explain the increased recorded death rate from cancer of these organs by mistaken diagnosis. It must also be remembered that formerly lesions that were not cancer were sometimes diagnosed as such.

There is undoubted proof of a different kind of the increase of certain types of cancer. For example: It is known that cancer may develop as the result of X-ray burns. They did not have cancer resulting from X-ray burns 50 years ago because X-rays were not used. Again there is no doubt that ulcer of the stomach is more common now than formerly, due to modern ways of living and eating. There is no doubt that many cases of ulcer of the stomach are followed by and are the cause of cancer of the stomach. It is simple logic that cancer of the stomach is on the increase.

While it may not be possible to furnish mathematical proof that cancer is increasing, the evidence is such that there is little or no doubt that such is the case. This undoubted increase in the frequency of cancer is an additional factor in making the cancer problem one of the most important to the medical profession.

There are two ways by which this cancer problem is being attacked. One is in the laboratory and the other is clinical.

In nearly every civilized country there are one or more cancer research laboratories in which trained men are searching for the cause of cancer, hoping that with the discovery of this cause the disease can be prevented. There are two of these laboratories in this state. There is one in Buffalo under Dr. Gaylord and another in New York. The Crocker Cancer Research Laboratory, a part of Columbia University and under the direction of Dr. Wood. The work of these laboratories is of great value and is to be encouraged in every way. I will not, however, speak further in regard to them.

It is my wish to direct your attention to the possibilities of more aggressive action against cancer from the clinical side. To do this, I shall outline to you the work and aims of the American Society for the Control of Cancer and shall hope to enlist your aid in your own communities. This society was formed about three years ago and is distinctly of a national type and was established on the pattern of the National Society for the Study and Prevention of Tuberculosis. Our directors are located in all parts of the country, though there are more from New York than any other city. On that Board of Directors are laymen as well as physicians. It was obvious that work of the magnitude that was planned could not be carried out by physicians who were occupied with their own work. We secured, therefore, as our executive secretary, Mr. Curtis E. Lakeman, a layman who had previously been interested in public work, who does the work of the Society under the direction of the executive committee.

There are two main objects of this society, one is to obtain better statistics regarding cancer, the other is to give to the laity such information as we possess regarding cancer.

First, let me tell you what we have done towards obtaining better statistics on the subject of cancer. Those of you who are familiar with the reports of the Census Bureau on Vital Statistics will recall that the deaths from cancer have been recorded under seven headings. The statistics with this

classification are of little value. Under cancer of the buccal cavity were included cancer of the lip, cancer of the tongue, cancer of the cheek, cancer of the palate, cancer of the tonsil—all grouped under one heading. Obviously this gives us no information about the frequency of cancer in any one of these organs.

At the request of our society, the director of the census is making a more complete analysis of the cancer deaths for the year 1914, dividing cancer deaths into about thirty-five sections, instead of seven, as heretofore. Many thousands of personal letters have been written to physicians who have signed death certificates of patients dying of cancer, asking them for more complete information in regard to the primary location of the disease, whether operation was performed or not, whether the diagnosis was made from clinical symptoms, or from microscopic examination of tissue removed. Many of you have doubtless received these letters from the Census Bureau in Washington.

The result of this work will be statistics on cancer for the year 1914 in the United States that will be superior to any that we have ever previously had and which will compare favorably with those of England and Wales and the continental countries. We feel that we have accomplished a great deal in this one direction.

Another plan on which we are working is to obtain more uniform statistics on cancer of the various organs from hospitals. For this purpose we have had prepared history blanks for a number of the different organs, and it is our intention to induce various hospitals throughout the country to use these blanks, so that at the end of a period of years we will have some very definite statistics which will be of great value on account of their uniformity and the large number of cases reported.

The educational side of our work has necessitated very careful consideration. Some believe that the physician, both in the medical school and after graduation, should receive more careful instruction on the subject of cancer, and through him, his individual patients should be taught regarding the early symptoms and the necessity of immediate treatment for cancer. Others believe that we should go directly to the laity and teach them certain important things that they should know in regard to malignant disease.

Let us speak first regarding the so-called education of the physician. It is not right in my judgment to use the word "education" in this sense. There are few physicians who need further education regarding the symptoms of any of the ordinary cancers. It is not education that he needs. He needs to be stimulated so that he will not be careless or indifferent to the early symptoms of malignant disease. He should be made to feel this responsibility when a patient presenting symptoms which indicate the presence of cancer applies to him for advice. If a physician would use the same care regarding cases that present symptoms of early malignant disease that he does so as not to overlook acute appendicitis, there would be many more lives saved by the treatment of cancer.

Regarding the direct education of the laity, there was one objection raised to it, namely, that people would be unnecessarily alarmed, that many people who had no sign of cancer would be unhappy by the fear that they did have one. This objection could not be considered a strong one and has not influenced us in our work, though necessarily lectures on cancer before lay audiences must be carefully worded. A person never dies of the fear of cancer. Most people of intelligence will accept definite statements regarding cancer from their medical advisers and can be made to have less dread of the disease. We believe that there is also an indirect value in the education of the people regarding the symptoms of early cancer. It is that physicians will be more careful regarding their work if they know that the

patient may have some definite knowledge of the subject. This is well seen at the present time in the attitude of the public towards acute appendicitis. It is a serious matter for a physician in any community to overlook and lose a case of appendicitis without an operation. It should be equally serious for a physician to carry a case of cancer without recognition beyond the operable stage.

Let me now tell you how this educational work is being carried on by our society. Educational work obviously must be carried on locally. It is not possible for men in New York to educate people in the middle of Kansas or distant parts of the country. To obviate this difficulty and in order to cover the territory at a distance, we have formed a large number of local committees. We have, for example, such committees in Boston, Philadelphia, Baltimore, New Orleans, St. Louis, Michigan, Iowa, Denver and California and other states. As the opportunity arises more local committees will be formed. The Central Committee in New York stimulates and suggests to these local committees, these local committees in turn stimulate and suggest to their sub-committees and individual workers in their own territory. In this way we hope eventually to cover the entire country. Whenever possible we work with and try to obtain the cooperation of existing societies. For example: The various State and County Societies throughout the country have been urged to devote at least one meeting each year to the subject of cancer. This suggestion has been very favorably received and many medical meetings on the subject of cancer have been held as a result of it. In July a number of the medical journals devoted an important part of the number to the subject of cancer. In addition to these meetings for the profession we have had a large number of meetings for various lay bodies. Some of these meetings have been before audiences of over 1,500 people. It is our belief, however, that better results will be obtained at smaller expense by devoting lectures to smaller groups of men and women.

There are a number of associations that seem particularly suitable for cancer messages or talks. Among the first should be mentioned the various nurses' associations or clubs. A number of the training schools in New York City at our suggestion have had lectures on cancer incorporated in their regular teaching schedule. In addition to this at national meetings of nurses and before groups of graduate nurses, lectures on cancer have been given, and it is difficult to believe that good results have not been obtained in this way. Women's clubs throughout the country all seem to be ready to have lectures on the subject of cancer. This is another very suitable field. Another way in which information regarding the subject of cancer is placed before the public at small expense is through the Press Bulletin of the American Medical Association. It has very liberally cooperated with us. This press bulletin goes weekly to several thousand lay papers throughout the country and it contains a number of short articles on various medical subjects in addition to such articles as may appear on cancer. These articles have been used in whole or in part to a large extent and is a very economical way to get cancer facts before a large number of people. The State Board of Health in a number of states have given us very valuable assistance. In a number of states they have issued special health bulletins on the subject of cancer which have been widely circulated. The State Boards of Health are also giving us valuable assistance in obtaining better cancer statistics. It is in these various ways that we are trying to get cancer facts before the people of this country; believing if the people know the real, true facts in regard to cancer and certain simple warning signs of the most frequent varieties of cancer, that they will go more promptly to their physicians for medical advice, and that their physicians will see that they receive prompt

treatment for the relief of the malignant disease.

It may well be asked—just what facts we consider it wise to teach the public, and how it is possible to make people who have had no practical education understand so complicated a disease as many varieties of cancer are. I believe it is possible in the course of half an hour to remove from the minds of many people some mistaken ideas in regard to cancer, and to replace them with correct knowledge of the subject in general and also certain danger signs which should send the patient to his physician for examination and advice. There are four things on the subject of cancer about which the laity should be informed. Many of them have mistaken ideas about these four things, and if we can change this we will undoubtedly add to their peace of mind.

First: That cancer is a local disease. It is believed by many lay people that cancer is a constitutional disease; that it is a disease of the blood. This we know not to be true and we should lay particular stress on this point to them. They should be made to understand that at the start cancer is distinctly a local disease and that it involves no part of the body excepting the place of its origin, and that it is only at a later stage that it spreads to different parts of the body. In this connection also we must teach that it is during the period that it is still localized that there is the greatest chance of a permanent cure. We can put this still more strongly and state that if it is completely removed while it is still localized that it will be cured.

Another point on which the laity has a mistaken idea and one which it is very important to correct—is that cancer is a curable disease. Many people believe that cancer is incurable and because they believe it to be incurable they neglect treatment entirely or until it is too late. The medical profession is in part responsible for this mistaken belief in regard to the curability of cancer. We all know that the tendency of physicians is to conceal from the patient the fact that he has a cancer, even if an operation is done for its removal. It is also concealed from the community. If such a case is permanently cured neither the patient nor the community knows that a cancer was successfully removed. If, however, the case is not successful and a recurrence occurs the entire community knows both of the operations and of the recurrence of the growth. In other words, our successes are concealed, but our failures are advertised. There is in this plan a certain kindness to the individual, but it is the cause of a mistaken belief regarding the curability of cancer on the part of the laity. It is of the greatest importance that the laity understands correctly that cancer is a curable disease, but that it is curable only in the early stage, and therefore any delay is associated with a distinct failure.

Still another fact which is not understood correctly in regard to cancer by the laity is the influence of heredity. It is believed by many people that cancer is hereditary. Many people are apprehensive in regard to cancer because they know that one of their direct ancestors died of it. It is probable, as a rule, that heredity plays no direct influence in the development of a cancer. The frequency of cancer in families can better be explained by the matter of chance. We all have two parents and four grandparents—making six people in the two previous generations, and as one person in twelve beyond the age of thirty-five dies of cancer, on an average of two people one will have had a parent or a grandparent who died of some form of malignant disease. If the side lines, that is, brothers and sisters, uncles and aunts are considered, it is easy to appreciate that there are few who have not had a near relative who died of the disease.

A practical evidence against any influence of heredity on cancer is seen in the attitude of life insurance companies in regard to it. The statistics of life insurance companies have been made with great care and if they believed that there was any greater risk

in insuring a person with a cancer history they would not be willing to assume the risk for purely financial reasons. The statistics of life insurance companies have shown that there is no greater risk to the person having cancer because he has a cancer history. There is no doubt that we will add to the comfort of many people if we will inform them that heredity has no influence in the production of a cancer.

Another point on which people have a wrong idea is the question of contagion. We should teach that there is no evidence that cancer is contagious. There are throughout the country an enormous number of cancer cases which are being cared for by members of their family—people who have had no particular training to avoid contagion. Many of these people are anxious that they may contract the disease. Many experiments have been made in the attempt to transfer a cancer from one person to another. While this has been successful in animals, it has never been successful so far as I know in humans. We also know that there is no recorded case of a surgeon contracting a cancer from operating on a cancer patient, though there are a number of such operations performed daily in this country. It is fair to assume therefore that cancer is not contagious and we should teach this fact to the public.

These four facts, that cancer is a local disease at first, that it is a curable disease, that it is not hereditary, and that it is not contagious, are the most important general facts regarding cancer that the laity should know.

In regard to cancer of the special organs it is the belief of the members of our society that we should not attempt to teach the laity all the symptoms of any cancer. We should limit our work to teaching them certain danger signals which should send them at once to a physician for advice. For example: In regard to cancer of the breast, we believe that it is sufficient if we teach women that if they discover any lump in the breast that they should go at once to their physician for an examination. With intelligent women, this is the first symptom in nearly all of the cases, it is not necessary to go into other detailed symptoms which occur later in the disease. If we teach women this one symptom the responsibility then rests with the physician to whom she goes for advice.

In regard to cancer of the uterus, we believe that it is necessary only to teach them that any change in the discharge, or any change in the menstruation should be looked upon with suspicion and should send the patient at once to a physician for advice. It is necessary in giving this information to women to assure them that these are only danger signals, not that they mean that a cancer is always present, but that it is wise and it is necessary to go to a physician in order to positively exclude it.

In what way does the cancer problem concern you here in the Fourth District? The message to you is the same as that of physicians in other communities. You as physicians are justly held responsible for the public health of the communities in which you live. The cancer problem is a public-health problem just as much as typhoid fever and the various infectious diseases are public-health problems. In 1912 the last report which I had at hand, there were in the counties which compose the Fourth District 5,093 deaths from all causes. Of these 278 were due to cancer, that is, 1 in 18. I did not have the percentage of deaths if only those of the cancer age were considered, but it is probable that the ratio is the same in this community as in other parts of the country, that is, that of all deaths that occur after the age of 35 years, 1 in 12 die of cancer. There is no question whatsoever that it is within your power to reduce very materially this cancer death rate. Take for example, cancer of the breast. As conditions are at present, judging by other communities, I doubt that one case in ten of cancer of the breast is cured. I am very sure that 1

in 5, or 20 per cent are not cured as conditions are at present. If you would teach the women in this community and the women would act on your instructions, that any lump in the breast should receive immediate attention from a competent physician, I am sure that the percentage of cures from carcinoma of the breast would increase from a possible 10 per cent to 75 per cent, and possibly 90 per cent of all cases. This rests entirely with you as physicians and with the women in this community. The American Society for the Control of Cancer is ready to give you every assistance that we can. There are certain things that we can do for you, there are certain things that you will have to do for yourself. We can tell you the experience that we have had in other communities. We can tell you how to organize lay meetings. We can help you similarly in your local press. We can furnish you with such literature as we have at our disposal. We can furnish you with an intelligent lecture, or such general information on the subject of cancer as it is wise in our judgment to give to a lay audience. We can even furnish you with speakers if you wish it. On your part I would suggest that you hold an annual cancer meeting in your medical societies and impress upon all physicians their responsibility in regard to the handling of early malignant cases. I would urge that you hold in your communities talks on cancer before such lay organizations, as groups of nurses, women's clubs, school teachers. In fact any group of men or women that you can get together, who are interested in this subject. I would suggest that you urge your local press to make use of the bulletins of the American Medical Association and to publish such other articles containing information on cancer as seems to you wise. I believe that the time is not distant when the lay community will hold the profession responsible for neglected cancer cases to the same extent that they all hold us responsible for such conditions as appendicitis, strangulated hernia, etc.

THE ADVANTAGE OF EARLY DIAGNOSIS AND TREATMENT OF TUMORS OF THE BREAST.*

L. F. Carlton, M. D.,
Tampa, Fla.

In the female breast almost every variety of benign and malignant growth has been observed. Of the benign type fibro-adenomata are much more frequent. These tumors present themselves in a variety of forms, depending on the relative amount of growth between the stroma and glandular substance. The glandular tubules may increase in length and breadth, forming slit-like cavities lined with cylindrical epithelium, or may form cysts (cystoadenoma), or in the dilated cyst-like cavities (acini) may project polypoid growths on which develop malignant growths (cysto-sarcoma proliferum). Myxomatous degeneration of the stroma renders the tumor softer. This condition may be combined with proliferation of the glandular epithelium, or with cyst formation. These conditions are of more interest to the pathologist than to the surgeon.

Clinically, upon section, the fibro-adenomata are grayish-white in color, of homogeneous texture, except when cysts are present and often distinctly lobulated. Fibrous layers sometimes arranged concentrically, like the several layers of an onion, the firmness in consistency depending on the predominance of fibrous or glandular tissue.

These occur mostly in young women; rarely after forty. Painless, distinctly movable in breast and slow growth. Do not adhere to the skin or ulcerate, axiliary glands not enlarged. May in after years become malignant.

Lipoma, nearly always retromammary, pushes the gland prominently forward. The slow growth and elastic character renders the diagnosis not difficult.

Retromammary cyst, according to Halsted, gives an elusive glide out under the

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

palpating finger, when under firm pressure an attempt is made to test the elasticity. Solid tumors of the breast might conceivably, in the absence of adhesions or exudative reaction, give the same roller-like glide.

Judging from the literature one is lead to believe that sarcoma of the breast is rather a rare disease.

Geist and Wilinsky, of New York, give a pathological report of 508 cases of tumors of the breast with 3.9 per cent sarcoma of various types. 46.5 per cent carcinoma. Of the malignant 7.7 per cent were sarcoma. The fibro-myxosarcoma and spindle cell sarcoma being the most common type.

Sarcoma of the breast takes on the usual characteristic of sarcoma elsewhere. That is, a capsule surrounding the tumor which in places is very thin. The spindle cell type is lobulated, firm and elastic, with striated whitish or pinkish cut surface. Fibromyxosarcoma is usually softer and more succulent and may even present small cystic and translucent areas. The origin of these two is probably in the connective tissue of the breast. The difference in the two depending on the variation in the amount of intercellular tissue and the presence of degenerative changes in the stroma. These tumors grow slowly as a rule and often remain well capsulated for a time, and are considered midway between benign and malignant. Lymphnodes show no involvement.

The round cell type is much more rapid in growth, breaks through the capsule sooner and invades the skin and deeper structures. These tumors have a cellular, whitish and homogeneous appearance, cellular structure predominating the stroma.

Histologically it is impossible to demonstrate lymphoid tissue appearing in the breast or the skin overlying it. Therefore, in all probability, so-called lymphosarcoma of the breast is merely small round-cell sarcoma.

Cystosarcoma phylloides is an encapsulated, irregular, lobulated, soft tumor, usually involving one breast and is distinguished grossly by showing œdematous papillary intracystic excrescences.

Giant cell sarcoma is a tumor of rapid growth. Cells show evidence of rapid proliferation, being very vascular. The cell growth progresses faster than the vascular growth and pathologically shows evidence of necrosis, hemorrhages and also inflammatory zones.

The symptomatology shows no differential point between these tumors which would aid one to distinguish clinically between the various types. The tumors appear between the age of 29 and 45—average 39 years. In the report of Geist and Wilinsky all the women were married and the majority of them had borne children.

Adenosarcoma or periductal sarcoma probably represents sarcomatous changes in pre-existing fibro-adenomata.

Rarer tumors are osteosarcoma, reported by Stillings (all fatal). Chondrosarcoma, mentioned by Bland Sutton. Another very interesting condition is that one reported by Legroin in the native women of Algeria, in whom multiple tumors appeared in both breasts, which ulcerate, have no metastases, but death is produced by secondary sepsis.

According to Murphy, Paget's cancer is not primarily a cancer of the skin and nipple but one of the milk ducts. The first sign of Paget's cancer is a little yellow secretion from the nipple which keeps coming and coming. It irritates and finally destroys the squamous epithelial cells of the nipple and produces an ulcer. The external manifestations shown by irritation, inflammation and ulceration are only secondary manifestations. The patient not recognizing the severity of the condition thinks it only a superficial irritation of the nipple and treats with ointments. She does not realize that from the appearance of the first discharge this was already a cancer of great malignancy.

There is no other word spoken today which carries more horror with it—except it be war—than the word cancer. There-

fore, we are justified in making a strong fight against the malady. Statistics show 75,000 deaths per year produced by cancer, 25 per cent being from cancer of the breast.

Cancer of the breast is second in frequency to cancer of the stomach. After a clinical diagnosis has been made it is often too late for radical cure to be effected because it has ceased to be strictly local, but through metastases has become general and necessarily a lethal disease. Therefore, the importance of early removal of all tumors of the breast before malignancy and if malignant before secondary involvement in the mediastinum and elsewhere.

The first evidence of cancer of the breast in practically every case is a lump or tumor which is frequently accidentally discovered and is unattended by pain or discomfort. Statistical records have proven that 80 to 90 per cent of all tumors of the breast are malignant. Billroth reports 82 per cent; Schmidt, of Heidelberg, found 82.66 per cent malignant; Bryant 83.16 per cent; Gross 82.47 per cent. Mayo states that 80 per cent are malignant from the beginning and that of the remaining 20 per cent one-half ultimately become malignant.

Moore of London in 1869 demonstrated that cancer begins as a local lesion. Evidence is clinical, microscopic, experimental and surgical.

Clinically it is demonstrated by the fact that early in the disease the patient seems in every way to be in perfect health, well nourished, no pain or discomfort, eats and sleeps well. Could this be so if the disease were constitutional?

Microscopic evidence is conclusive as to the local nature of the affection. On cut section through the center of the growth one sees countless epithelial cells pathognomic of cancer. Such cells become fewer near the periphery and just beyond the edge no cells are found at all.

Experimental. Inject one of the lower animals with cancer cells, after a time there will appear a small localized tumor at the site of injection or needle puncture. It grows slowly but steadily. The animal appears as well as its fellows. If undisturbed, later the animal appears emaciated, loses appetite and appears to have pain along with secondary swelling elsewhere, and later dies from the constitutional condition.

Surgical. On excision with a fair amount of surrounding tissue, before secondary involvement, the wound made in so doing immediately heals and that is the end of the trouble.

Tumors of the breast are not to be treated by pessimists or faint-hearted surgeons who think removal unnecessary, but rather use the plan of watchful expectancy. The percentage of cures has been very much greater for those who have adopted the plan as laid down by Moore and Banks, of England; Billroth and Volkman, of Germany; Gross, Halsted, Warren, Myers, Mayo, Murphy, Rodman, Bevin and many other eminent surgeons of America, who advocate prompt and radical surgical treatment of all border line cases.

The surgeon who excises a part of the growth for pathological diagnosis is only adding fuel to the flames. If cancer, and only local, disseminated cancer cells may enter the blood and lymph stream and metastasize elsewhere, thereby making radical cure impossible. The only rational procedure is to remove all the tumor with a reasonable amount of surrounding tissue and submit to the pathologist who will furnish an immediate report.

Every growth of the mammary glands should be treated as malignant until proven to be benign. It is true that the greater percentage develop after forty, 20 per cent under that age. However one is not justified in watchful expectancy on the young, as malignancy in the young progresses much more rapidly and is more fatal. Because of the richer supply and greater potency of lymphatics, metastases develop more readily.

It is found that 25 per cent of patients operated on at the clinics of University of

Pennsylvania showed cancer and also a recent report from one of the German clinics shows that 25 per cent of abnormal involution had already undergone malignant degeneration. Even though malignant changes have not already begun, who knows but that they may not at any time?

How is cancer of the breast to be treated? Knowing, as we do, that it begins as a local affection the answer should be prophylaxis as well as curative.

Prophylaxis by removing all tumors of the breast.

Curative by free and early excision with the knife and complete examination of excised tumors.

Here is where the value of X-ray comes in. The value of X-ray in superficial cancer has become an established and recognized fact. Many roentgenologists have found tumors of the breast to disappear following X-ray therapy, but it is not altogether dependable as shown by failure to cure inoperable tumors and one should not rely on X-ray alone, yet it is of great value. It is of great value in post-operative treatment of cancer and every breast showing malignant involvement should have a rigid post-operative X-ray treatment.

Snow says that the notion of some that X-ray stimulates malignant growth is due to an inadequate exposure which stimulates cell growth and reproduction, the rays not being strong enough to destroy cancer cells.

The mortality following operation is too small to even mention. Less than one-half of one per cent. And if operation is performed early, permanent cure will result in the great majority of cases.

Jackson states that with the evidence we have today concerning the great danger from tumors developing in the breast one is practically following a criminal course who does not insist upon the immediate exploration of every tumor in a woman's breast as soon as it is first found.

Conclusions.

Because of the absolute impossibility of differentiating clinically tumors of the breast, of the high percentage of tumors of the breast showing malignancy, of the low mortality following operation and of the high percentage of cures following early removal, one is justified and I think required to remove all tumors of the breast.

All breasts showing malignancy should be subjected to a series of postoperative X-ray exposures by the roentgenologists.

References.

Sarcoma of the Breast. S. H. Geist and A. O. Wilinsky, American Journal of Surgery, July, 1915.

Elusive Mobility of the Breast in a Case of Retromammary Cyst. W. S. Halsted, Johns Hopkins Hospital Bulletin, October, 1915.

Cancer of the Female Breast. Wm. Benham Snow, New York Medical Journal, July, 1915.

Cancer of the Breast. W. L. Rodman, Journal A. M. A., February 27, 1915.

Paget's Cancer. Murphy's Clinics, August, 1914.

Surgical Diagnosis. Johnson.

Cancer of the Breast. Louis Frank, American Journal of Surgery, July, 1915.

The Imperative Necessity of Early Diagnosis and Early Operation in Cancer of the Female Breast. Jabez North Jackson, American Journal of Surgery, July, 1915.

REPORT OF ONE CASE OF EPITHELIOMA INVOLVING DEEPER TISSUE.*

Mary Freeman, M. D.,

Perrine, Fla.

It is not customary to report incomplete work. The reasons for making this report now are the importance of the subject and the results so far obtained. These have given ground for believing it is worth further investigation on inoperable cases. In the initial stage prompt and efficacious local treatment pushed to complete removal of involved tissue, will encourage patient and doctors alike, and help remove the now prevailing mystery pertaining to cancer.

The patient is my father, so there was an intimate knowledge long before a professional one of the case. The lesion began in 1892 as a scaly little spot at the outer can-

*Read by title before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

thus of the right eye. Treated the same year with either zinc or arsenic, it showed slight improvement, but traces remained. It was treated again in 1896 by internal as well as external medication, but with no improvement. Treated again with zinc chloride in 1902 and 1903, with apparently a complete removal. When it showed up again in 1906, zinc was again applied, and the symptoms disappeared, except an occasional pus discharge from the eye. In 1911, following a severe attack of grip—pain, swelling and discharge occurred, with a rapid growth of the tumor. At this time it was pronounced inoperable by Dr. Brown, of Tacoma, Washington.

These conditions increased until July, 1912, when the patient was sleeping almost twenty hours out of the twenty-four. The greater portion of both lids were involved as well as the orbital contents. Again the zinc chloride was applied, also X-ray was used. Considerable reduction in the mass and gain in strength resulted up to the time when the X-ray treatment began to disturb the circulation. After twenty-six applications it was considered advisable to discontinue the treatment. The tumor grew larger after the treatment was stopped.

September, 1913, the patient returned to Florida. Since then he has been under my constant observation.

Dr. J. G. DuPuis, of Lemon City, has given valuable assistance and supervision of the case in the treatment with radium. Where the radium could be applied to effect, it appeared to destroy the growth and the mass was greatly reduced. But when it came to applying it too directly over the eyeball, the pain was intolerable and the patient's vitality would run so low the treatment would have to be discontinued until he recuperated. An attack of influenza in one of the low-vitality conditions (May, 1915), started a more rapid growth of the tumor, and the patient failed to regain his former strength. Each relapse sending him farther down.

After applying the radium on January 20, 1916, the excruciating pain necessitated the use of morphine. The pain extending from the orbit to the occiput.

At this time the patient was almost seventy-eight years old, emaciated, strength nearly exhausted, appetite failing, hemorrhages frequent, necrotic bone discharge profuse, several small pieces of the superior maxillary having been observed since October 1, 1915. The entire right cheek appeared ready to break down. The prognosis was bad.

During a hemorrhage on January 30, 1916, emetine hydrochloride was applied locally. This checked the hemorrhage and slightly modified the necrotic discharge. Following the first application of emetine a distinct line of demarcation appeared extending almost to the lower edge of the upper lip. Within twenty-four hours the toxic symptoms were less pronounced.

Emetine hydrochloride, 1-2 grain daily, in broken doses was continued. By February 6th hemorrhages had ceased. By February 13th the necrotic discharge had disappeared. The first emetine disturbance occurred March 28th, lasting for about six hours. The following day there was a marked improvement in both the local and general condition. After a rest of two days emetine was again applied until nausea reappeared. This method of allowing a short rest after each period of nausea was continued until April 25th, when severe poisoning symptoms occurred—nausea, vomiting, diarrhea, dizziness, drowsiness and bluish pallor, accompanied by trembling and jerking of the muscles. This condition lasted for twelve hours. Digitalis and strychnine were used to support the circulation and saline laxatives to hasten elimination.

The sloughing away of the diseased tissue left the eyeball unsupported and on March 18th the cornea ruptured allowing the crystalline lens to escape. Since then almost the entire eyeball has been discharged.

At present (May, 1916,) the patient has good color, good appetite, is cheerful, wide

awake and is gaining strength. The line of demarcation has receded to a very small circle around the orbit and is very dim. The edge of the wound where there has been complete removal, has healed. There is still a slight discharge from the deeper structures involved, but this resembles "laudable" pus.

It was a theory advanced in the Journal of The Southern Medical Association, October, 1915, "Abstracts of notes on Amœbæ," by Roehr, that suggested the emetine experiment. Dr. Byrd also stated that there is a similarity in manner of growth between the cancer cells and the amœbæ. And on the strength of the axiom, things that are equal to the same thing are equal to each other, this experiment has been made in the hope that there is enough similarity between amœbæ and cancer for emetine to do the work.

AN UNUSUAL LOCATION FOR A SARCOMA: WITH REPORT OF A CASE.

P. C. Perry, M. D.,
Jacksonville, Fla.

My only excuse for reporting a sarcoma is its unusual location and the origin from the connective tissue; in fact one would rather suspect an epithelioma at this location rather than a sarcoma. The history of the case is herewith presented:

Mr. M., age 42, banker by occupation: Personal history negative other than the usual diseases of childhood. On the back of the right hand was a flat discoloration that had always been called a mole. He could not remember the time when this was not present. A year before I removed it he noticed for the first time that it had started to grow and was slightly elevated above the skin. While he was asleep some five months before he came under my care, he remembered being awakened by a sharp pain and thinks that in turning in bed, he struck the growth with the other elbow, causing the pain. From that time on there was a very decided increase in size so that when I made my original examination I found the following appearance: The growth about two or three cm. in size with a constriction about the base, say one and one-half cm. across, with the growth much elevated, moist and a great increase of the capillaries. No glandular enlargement either in the axila or arm, not painful but presenting a very angry appearance.

A careful investigation into the family history fails to show any malignant growth in any of its branches.

I wish to express my appreciation to Doctor Henry Hanson who submitted the following pathological report:

"The tumor submitted by you from the back of hand of your patient, M., is a sarcoma.

The growth is of a mushroom shape measuring about 2 cm. in its greatest diameter. There is no visible epithelial covering over the exposed portion of the tumor. The epidermis is reflected over the pedicle and out to the outer lower border of the mushroom-like growth.

Microscopic sections show the origin of the growth to be in the connective tissue under the germinal layer of the epidermis, where there is a tendency to cavernous formation and where one finds a perithelial proliferation of cells from the blood vessels in the immediate vicinity of the tumor. There is also an increase in small blood vessels in the subcutaneous connective tissue where this tumor originates. The endothelial cells in many of these vessels are distinctly hypertrophied and have changed from the flattened type to an oval type which in a general way resemble the cells making up the bulk of the tumor. Mitotic figures are fairly numerous. There is a slight hypertrophy of the epithelium at the fold of the pedicle of the growth, but there is nowhere any breaking through of the basement membrane. The bulk of the tumor is composed for the most part of large spindle-shaped

cells with large oval deeply-staining nuclei. On account of the proliferation of the endothelial and the perithelial cells and the presence of this type of cells in the main tumor, a diagnosis of perithelial angio sarcoma is made."

X-RAYS AND THE LIVING CELL.*

John D. MacRae, M. D.,
Tampa, Fla.

Since the discovery of X-rays clinical records have accumulated; from these observations facts of the greatest importance are recognized. Especially have we learned what tissues are most resistant and which are particularly sensitive to the radiations.

Radiotherapy is rational because we know what changes to expect in the different tissues when treated by radium or X-rays: but until we know what changes occur within the individual cell and why they occur radiology will remain more or less empirical. This, however, is not such a serious thing to charge against this field of work. Almost all of medical and surgical practice is at first empirical. It is only twenty years since X-rays were discovered and radium is an element which was discovered at an even more recent time. Researches are progressing and new facts are constantly being added to what are already recorded.

Physicists have refracted and measured X-rays. Their rate of travel is known and also the length of their characteristic waves. Their properties of producing fluorescence, ionization and chemical changes have been studied; laws governing their production and regulation have been formulated.

On the biologist is placed the burden of discovering just how and why the X-rays act on the living cell. Co-laborers in this field are physicists and physicians.

Vibrations producing X-ray are infinitely short. Cell organs and parts are atomic and subatomic in magnitude. Much of this subject is intangible.

X-ray influences may stimulate cell activity, may destroy cells, or the cells may resist radiation changes.

Why do these reactions come about and how are they produced?

Before considering some of the theories advanced to explain the reactions of living cells to radium and X-rays, let us review a few of the facts learned by clinical and experimental observations.

Sodium chloride exposed to X-rays turns from white to dark brown. The amount of color change is in direct proportion with the amount of exposure. This change is said to be due to the liberation of water of crystalization. I believe, however, that the change is caused by a rearrangement of the atoms within the molecule, produced by ionization.

The photo-chemical change occurring in the silver emulsion on photographic plates is a chemical change. These are reactions in inorganic substances.

Starch solutions, albumen, pepsin in solution and many other organic substances are observed to undergo changes when irradiated.

In the living body every tissue has been studied to determine the reaction produced in each by X-rays.

Senn, of Chicago, in 1903 directed attention to the effect of X-rays on the spleen. In leukæmia important blood changes occur. After exposure, within a short time, a marked increase in white cells is noted. A little later an even more marked decrease follows. This decrease persists for some days. Gradually the cells return to a point where they were when first submitted to irradiation, unless the dose is repeated. While this effect is being produced in the number of white cells, it is noted that the red cells are increasing in numbers.

Thymus, thyroid and indeed all glandular structure are particularly sensitive. The testicles and ovaries are so much so that they

---

*Read by title at the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

must be protected from prolonged exposure to avoid producing sterility. The active cells in the glands are destroyed by irradiation and a fibrosis takes place. Such organs undergo atrophy. These facts are taken advantage of in treating goiter, leukæmia, uterine hemorrhages when ovarian in origin, and so forth.

As for the nervous system, enormous quantities of radiations have been delivered to the brain without producing anatomical changes. It has been often noted that almost any other tissue in the body will succumb to attacks with the X-ray before any change or reaction is noted in the nervous system.

The eye in young kittens has been exhaustively studied. X-ray exposure causes it to be smaller than the control through under-development. Each part of the organ goes through some degenerative change as a result.

These experiments, however, were with young kittens, and it is a fact that all juvenile tissues are very sensitive to X-rays.

In a series of experiments of my own common varieties of garden seed were treated for one hour with X-rays. They were then planted beside other seeds taken from the same packages. The behavior of the treated seed and the control were practically the same. That is their time of germination and vigor of growth was the same. Of the same seeds another series of tests were made. Seven varieties were used. The tests and control were both soaked in water until germination started. They were then planted side by side, after the tests had received one hour's treatment with X-rays. As a result the tests came up or germinated much earlier, 25 per cent to 50 per cent earlier than the controls. In the first series there was no reaction because the seeds were in a resting stage when treated. In the second series, after germination had started, the seeds were in a state of active division. This condition and the dose were suitable to produce stimulation.

Stimulation of normal cells to rapid growth was noted in a recent case of epithelioma. The growth was a fungous-like mass on the forearm. The vigorous dose given was directed at the tumor and at the ring of healthy skin surounding it, which was a third of an inch wide. When the patient came in for observation in about two weeks after this treatment, the healthy skin, which had been exposed, was hypertrophied to a considerable extent. The margin had grown up, forming an elevated rim around the cancer. At the same time a destructive effect had taken place in the tumor. The malignant cells, being more sensitive, had undergone atrophy and the whole tumor was much reduced in size. This dose was twice repeated at three weeks' intervals with good results. Here we have stimulative effect and destructive effect in two types of cells produced by the same dose. This difference in degree of X-ray sensitiveness of different tissues is what gives X-rays a selective influence on certain types of cells.

I have observed many of the tests leading up to a particular set of experiments reported by G. A. Runner, entomologist in the United States Department of Agriculture, on the treatment of cigarette beetles, their eggs and larvæ with X-rays. The adult beetles were exposed to 600 M. A. minutes at 7 1-2 inches from the target of a tube with 5 1-2-inch spark gap. The beetles lived as long as the controls, but the eggs which they laid after exposure were infertile, while the eggs laid by the controls hatched, larvæ were treated with a similar dose. They were not killed at once, but none of them reached the pupal stage.

Eggs of this beetle exposed 150 M. A. minutes with the same tube conditions were destroyed. A few of the eggs well advanced in the embryonic state hatched but the larvæ died before becoming pupæ.

These are a few widely differing observations of reactions to X-rays or radium radiations. They do not furnish us an answer to our questions, but they serve to direct atten-

tion to the problems before us. Theories are advanced, but in spite of their merits, none are fully acceptable.

Prof. Richards, of the University of Texas, in an article on "The Biological Explanation of X-radiation Effects," sets forth three important theories.

The experiments of Schwarz with radium rays on lecithin led him to the conclusion that as this substance is decomposed by the rays and it is found in practically all cells it is the constituent whose destruction is responsible for cell death when exposed to radium or X-rays. This, however, is not logical because those cells which are richest in lecithin, that is the brain and nerve cells, are most resistant, while cells whose lecithin content is small are highly sensitive. Other investigations fail to support this theory. Moreover the chemical changes in lecithin, assumed by Schwarz, have not been proved.

The Hertwigs, of Berlin, observed that chromatin and chromasomes are the cell organs injured by irradiation. Other parts of the cell seem but little affected. This observation is borne out by the work of many investigators.

Different unicellular organisms have been studied to prove this theory. Ova and spermatazoa of frogs and ova of Ascaris megalacephala are easy to obtain and are often used for experiments in this field. It is found that developing ova vary in X-ray sensitiveness at different stages of nuclear division.

Mottram found that ova in a state of active division were eight times more sensitive than when in a resting condition.

Another theory, advanced by Packard, is that chromatin is indirectly disorganized. He says: The rays activate autolytic enzymes which bring about degeneration of the complex proteids. Richards irradiated a solution of pepsins and measured its power to digest albumin. He found that the pepsin irradiated for four minutes was activated. It digested albumin 12 per cent faster than the controls. At the same time he found that pepsin treated longer by X-rays became less active the longer its X-ray treatment. Richards also carried out a similar experiment with diastase and starch. The results were the same.

These are beautiful theories, but they are inadequate. Each contains some truth and represents a tremendous amount of work. Many other theories will be advanced, tested and discarded. But we are drawing nearer to the solution, when our questions will be answered.

ROENTGENOTHERAPY, WITH SPECIAL REFERENCE TO CERTAIN MALIGNANT CONDITIONS, TUBERCULAR ADENITIS, AND ECZEMAS.*

John P. Long, M. D.,
Lake City, Fla.

Roentgenotherapy is the application of the Roentgen rays to the treatment of disease.

For superficial conditions such as epithelioma, lupus, eczema, etc., we use a low vacuum or soft tube; for less superficial lesions, such as tubercular glands, etc., we use a medium vacuum or medium hard tube; for deep malignancies we use a high vacuum or hard tube.

In treating all conditions in which X-rays are indicated the best index and safeguard we have is the condition of the skin.

It is often desirable to produce a mild degree of dermatitis (or first degree burn) in order to get therapeutic effect. Grubbe, of Chicago, says: "Dermatitis if properly produced is, within certain limits, a desirable feature of X-ray treatment." As an example of the above, a superficial epithelioma of the skin of forehead was treated with medium soft rays. A piece of lead-foil was applied over the surrounding skin and a hole cut to allow the rays to strike about a half inch

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

of surrounding normal skin including the epithelioma. A dermatitis was produced in the normal skin surrounding the lesion, but not in the normal skin covered by the lead-foil. As long as dermatitis persisted treatment was withheld. As soon as the skin began to assume a normal appearance treatment was resumed. At present this case (Case II in case reports) seems to be about cured. Grubbe also says "In all open or broken down conditions a dermatitis should be rapidly produced." In treating the deeper tissues it is desirable to avoid producing a dermatitis. This is done in a variety of ways, e.g., aluminum filters are used to filter out the soft rays, which usually are the burning rays. These filters are from 1 mm. to 4 mm. in thickness. Tousey, of New York, also recommends the following filters, viz.: a single thickness of tin-foil of which 100 square inches weighs one ounce; a sheet of sole leather; Grubbe recommends a good thick coat of vaseline applied to the skin. Personally I have only used the sole-leather filter. This was used in the treatment of deep conditions and proved very effective in protecting the skin. In deep conditions another method of avoiding dermatitis is by cross-firing the diseased area, e.g., an abdominal condition may be treated through six different areas and the rays centered in the tumor. The areas through which the rays are not projected, should be protected from X-rays by sheets of lead-foil. Various standards are used for measuring the penetration of tubes, e.g., Holzknecht's units, measured by Holzknecht's chromoradiometer. A chemically prepared pastel is exposed at the same distance from the tube as the part under treatment, and the application is continued until the pastel has changed color to correspond with 1, 2, 3, 4, or 5 of the color scale. One H is about 1-3 of the amount of the X-ray that must be applied at one session in order to produce a visible reaction on the face. 3 or 4 H is a full dose; 5 H is a very large dose sometimes required in cancer cases.

Walter's or Benoist's units are measured with Benoist's radiochrometer. The degree of vacuum in the tube is indicated by the thickness of aluminum which the rays will penetrate. There is a central disc of silver 0.11 mm. thick, surrounded by sectors of aluminum numbered from 1 to 12, according to their different thicknesses in millimeters. When the aluminum sector 5 mm. thick casts the same depth of shadow as the silver disc on the fluoroscope screen the tube is said to be giving out No. 5 rays and is a tube of medium penetration. A hard tube gives out No. 7 or 8 rays.

I shall mention one more method of measurement, viz.: the Tousey method of measurement of dosage. One Tousey unit is the X-ray power which will produce upon kodak photographic film an effect equal to that of one-candle power of carbon filament incandescent electric light of the usual brightness, applied for the same time and at the same distance. Kodak film is selected because universally obtainable.

One Tousey unit second is the quantity of the X-ray which will produce upon kodak film an effect equal to that of one-candle power of carbon filament incandescent electric light, applied for one second at a distance of one meter.

Separate portions of a kodak film are exposed to one meter second of incandescent light and to various numbers of meter seconds of the X-ray which is to be tested. Then the entire film is developed in the regular full strength photographer's tray-developing solution (not the slower tank-developing solutions) for ten minutes in perfect darkness.

There are other methods of measurement which I shall not mention here. My method has been to measure my vacuum by the spark gap which the tube will back up. A soft tube backs up one to two inches spark gap; a medium tube two to three inches; and a hard tube three to five inches. I use a rheostat to measure my current, but not an ampermeter. There are three strengths of

current obtainable from my coil. The coil is of the Tesla type, portable X-ray and high frequency apparatus, with primary coarse winding outside and secondary finer windings with a ratio of about 110 to 1.

But this paper is not a description of apparatus, so we will not discuss them further than to say that I use the Fisher portable "E" coil.

Distance of the Tube From the Part Being Treated.

The deeper the lesion being treated the further the anticathode should be from the skin. If the anticathode (or target) is only four inches from the skin, the latter will be twice as near the former as a lesion four inches below the surface, and the skin would receive a radiance four times as strong as the deep lesion. This of course would be undesirable as we are endeavoring to treat the deep lesion and not the skin. If an epithelioma should require a distance of eight inches from the anticathode to the lesion, deeper seated lesions would require more than eight inches distance and eczemas would require slightly less. The following rule is given at the Illinois School of Electro-Therapeutitcs in Chicago. This of course is measuring from the surface of the tube and not from the anticathode:

One-inch vacuum (spark gap) calls for 2 to 3 inches from body surface.

Two-inch vacuum (spark gap) calls for 3 to 4 inches from body surface.

Three-inch vacuum (spark gap) calls for 4 to 5 inches from body surface.

Four-inch vacuum (spark gap calls for 5 to 6 inches from body surface.

Five-inch vacuum (spark gap) calls for 6 to 7 inches from body surface.

Six-inch vacuum (spark gap) calls for 7 to 8 inches from body surface.

I have not adhered to this rule strictly.

In regard to the time of exposure I have adhered to the 5- to 10-minute exposure. In the majority of cases where they could come for treatment twice a week I have given six-minute exposures. Where I can get the patient only once a week I have given ten-minute treatments.

The malignant conditions in which X-rays are successfully used are in the order of success; epitheliomata, especially where there is no adhesion between skin and deeper tissues. In such cases where there is no glandular involvement cure can usually be effected. Where adhesions have taken place, the prognosis is not nearly so favorable. In the latter class of cases X-ray treatment should supplement surgery and not take its place.

When a malignant condition is operated on, X-ray treatment should be instituted immediately following the operation without waiting for cicatrization. The surrounding tissues should also have the benefit of X-ray.

Next in order of success comes carcinoma of the breast which has been operated on but in which recurrence has not taken place. Where recurrence has taken place, life may be prolonged for months or even years, but a fatal result eventually takes place. Failure usually occurs in the following, viz.: carcinoma of the tongue, larynx, stomach, intestines, uterus, penis and secondary glandular involvements which should include metastases. In spite of the above statement Pfahler reports a cure of adeno-carcinoma of the larynx and of recurring carcinoma of the breast following operation with X-rays.

Sarcomas.

Pfahler says that he "has always felt that sarcoma was more amenable to treatment by X-rays than carcinoma and his general results show a healing process in about fifty per cent." He reports four cures, an inoperable sarcoma of the right side of the neck under the jaw, a myxo-sarcoma of the thigh, a sarcoma involving the hard palate, soft palate crowding upward and filling two-thirds of the right antrum, and a round-cell sarcoma of the tonsil. Two of these were treated post-operatively.

Pfahler of course has had the advantage of the use of the Coolidge tube. Dr. Cunningham, I think, will tell us something about the use of this wonderful X-ray tube.

Martin, of Dallas, has had uniformly unsuccessful results with the use of X-rays in sarcomas. He apparently did not use the Coolidge tube. I have had one case of sarcoma and it terminated fatally (Case I).

Non-Malignant Conditions.

The following skin diseases respond favorably to X-rays: Acne, favus, sycosis, psoriasis, keloid, eczema, pruritus, tinea capitis and lupus.

My experience in above mentioned skin diseases has been limited to eczemas, which include so-called "tetter" and pruritus ani.

Tuberculosis in Other Than Skin Conditions.

The X-ray has no destructive influence on the tubercle bacillus either directly or indirectly. On localized tubercular lesions (bones, joints and glands) X-rays have a marked curative influence. Dr. Wm. J. Butler, of Chicago, gives the best explanation I have heard; he says this is due to the hyperemia which is induced by the rays causing the patient to manufacture an autogenous tuberculin, just as he does in Bier's hyperemia.

On pulmonary tuberculosis the X-ray has no curative influence. Sometimes phthisical patients seem to improve, but they are so optimistic they would also seem to improve under any other remedial agent. I report one case of tubercular adenitis apparently progressing to cure.

Martin reports success in the treatment of prostatic hypertrophy, exophthalmic goitre, Hodgkin's disease and pseudo-leukemia.

The following cases, while small in number, perhaps will have some bearing on the subject:

Case I. P. S., white, age 15, male. General peritoneal sarcomatosis.

About three months previously Dr. R. B. Harkness, of Lake City, removed a large sarcoma from the abdominal cavity and the boy had an uneventful recovery and seemed as well as ever. No post-operative X-ray treatment was given because none was available at the time. Recurrence took place (following a blow in the abdomen with a tennis ball, according to patient's statement. To me this is rather far-fetched reasoning). Patient then had bloody urine showing bladder involvement. Dr. Harkness made an exploratory incision on July 14, 1915, and found the case inoperable with bladder wall involvement. He then turned the case over to me for X-ray treatment, as I had just received my coil. This was my first case and with such a serious prognosis facing me, I had previously written Dr. E. S. Blaine, head of the X-ray Department of Cook County Hospital, Chicago, a few days before the operation, to advise me what technique to use. I received the following directions: "The wound should be closed as usual and treatments given through the abdominal wall; use a high tube (more than five-inch gap); divide the abdomen into at least six areas; give five minutes in each area; be sure to protect all other areas except the one under exposure; target-skin distance about seven inches; at least two mm. aluminum filter." As I had no aluminum filters he gave me the following advice: "You can get a piece of 2 mm. aluminum four to six inches square and lay it on the patient's skin. If this is a case of general peritoneal sarcomatosis do not expect much benefit."

In the last sentence of his communication Dr. Blaine was amply justified, as the case went rapidly to a fatal termination. It was not convenient to obtain the aluminum so I used sole leather for a filter, divided the abdomen into six areas and gave five-minute treatments every other day, at seven-inch distance and a tube which backed up a five-inch spark gap.

The skin never showed very much dermatitis. The wound healed uneventfully; the

urine became free of blood; the patient felt better; we all became hopeful including the patient.

In about a week the last stitch had been removed and the tumor seemed a trifle larger. Next day it seemed a good deal larger and then it grew by leaps and bounds. As soon as it was perceptibly larger I gave treatments every day and for ten-minute intervals. Patient's limbs swelled from pressure on veins, and pain in limbs was agonizing from pressure on nerves.

Morphine had to be given at stated intervals and on the night of August 5th the patient died. A few hours before he died a great deal of swelling left the legs and thighs, probably from softening and breaking down of tumor and release of pressure on veins.

Case II. T. J., white, age 45, male. Epithelioma on forehead.

Circular in area, diameter about 1 1-2 that of a silver dollar. No ulceration, skin freely movable. Treatment begun August 11, 1915. Treatments were given every other day for a period of ten days. The patient then went to New York for ten days to buy goods (he was a merchant). When he returned treatments were resumed, being given twice a week until a dermatitis surrounded the lesion for a half inch. Treatments were then withheld and resumed when dermatitis started to subside. During the month of December, 1915, all treatment was stopped and resumed January 1st. Treatments were then given twice a week till a dermatitis resulted, discontinued till dermatitis began to fade and then resumed. This method of treatment is now being followed and patient gets about three treatments per month on an average. He is about cured, but has a few scaly crusts on upper part of lesion. I am anxious to know just when to stop and hope some of you more experienced roentgenologists will tell me. My technique for this case has already been described, so I will not burden you with that again.

Case III. J. B. R., negro, age 25, male. Tuberculosis of glands of neck. Came under my care September 11, 1915. Two very large tubercular glands on right side of neck had suppurated. I referred him to a surgeon who declined to operate as the negro was a pauper and had no place to go to be operated on. There were no hospital facilities for negroes. Moreover he could not get anything suitable for a tubercular patient to eat. Now this was not very promising material for X-ray work. Martin, of Dallas, says that in suppurating tubercular adenitis the pus may be made to undergo caseous degeneration. To begin with I aspirated most of the pus with trocar and canula and sealed the openings with collodion and cotton. Then I applied my X-ray about every third day with a medium hard tube, distance eight inches, six-minute exposure. Being a negro, the skin was a very poor guide. In fact the skin sloughed over one of the glands, exposing caseous matter over a surface as large as a ten-cent piece. Eventually it granulated and healed. As I mentioned before, he was a pauper and could not always get a good square meal three times a day, so whenever he came for treatment I sent him to my home for a good square meal. This was a double inducement for him to come for treatment regularly and he has come for his treatment and all the good things that went with it quite faithfully.

About November 1st a new gland appeared just beneath the chin as large as a pigeon's egg. Then I gave the patient a good looking over and found that he was syphilitic. On mercury and iodides he fattened up, but had a skin rash which persisted. An intravenous injection of arsenobenzol (Schamberg) cleared up the rash. He gained fifteen pounds and about January 1st got a position as farm hand, at which he is now working. His glands are progressively growing smaller, and I have no doubt he will eventually be a cure.[1]

Case IV. P. L., white, male, age 40. Pruritus ani.

Patient has been a sufferer more or less for twenty-years. Was given four treatments in January, 1916, with a soft tube, distance eight inches for ten minutes. A piece of lead-foil with hole four inches in diameter was used to protect surrounding parts. After the fourth treatment a dermatitis appeared and the pruritus was apparently cured. About a month later it recurred. Since then about six treatments have been given, with temporary relief, but have been unable to produce much dermatitis. Perhaps my distance has been too great. Will try four to six inches in future.

Case V. S. A. R., white, male, age 45. Carcinoma of penis.

This is a carcinoma of the glands (probably an epithelioma) of twelve years' standing. The case came under my care February 21, 1916, and was in the ulcerative stage. He had been using a "plaster" which some quack had sold him, but which had failed to remove the necrotic tissue. He was suffering great pain and had recourse to both morphine and whiskey. I accepted the case on condition that if there was not marked improvement at the end of the month, surgical measures should be undertaken. Apparently there was no glandular involvement. Treatments were given twice a week, and in all eight treatments were given. A medium vacuum was used for six-minute exposures, nine to ten inches distance. He was greatly relieved of his pain, but no clinical improvement took place. At the end of the month he went home to think over the matter of operation, and would let me know in a few days. Nearly two months have passed and I have not heard from him.

Case VI. D. E. S., white, female, age 60. Epithelioma of lower lip.

Years before the patient had a cancer at the junction of the nose and superior maxillary bone which was removed with a "plaster." There have been several recurrences. One small, non-ulcerative one at the temple, a very small non-ulcerative one on the bridge of the nose, and a large ulcerating one of the lower lip. My energies were chiefly expended on the lower lip, and it had begun to cicatrize. The patient was treated March 14, 18, 25, 31, and April 8, 1916. Then she suddenly ceased coming and as she lives in an adjoining town I have not been able to get in touch with her. It was a very hopeful outlook and I can not understand why she discontinued treatment.

Case VII. C. T., white, male, age 19. Eczema (so-called "tetter") right hand.

From March 8th to the present time this patient has had six treatments with a very soft tube, distance six inches for six to ten minutes. The condition is improving and the outlook is very hopeful for a cure.

A few words on the subject of X-ray burns:

I have never had a burn proper in my practice, so can not speak from experience.

First-degree X-ray burns amount to little more than dermatitis, and if we stop at the first-degree burn no harm is done.

In the second-degree burn there is bleb formation which may or may not coalesce.

The third-degree burn goes deeper than the skin and sloughing takes place.

The following rules of treatment are given by Dr. Grubbe, of Chicago, who has had abundant personal experience with burns. He was one of the pioneers in the manufacture of X-ray tubes and he and his co-worker tested their new tubes on each other with the fluoroscope. The co-worker paid the penalty with his life, and Grubbe is frightfully burned on chest, back and hands. It is needless to say that he will carry these burns to his grave.

For the first-degree burn, apply a saturated solution of sodium bicarbonate where there is itching, and allow to dry.

If the X-ray is withheld, the first-degree burn gets well. The X-ray is cumulative and if applied over a first-degree burn it may be converted into a second-degree burn, which is a more serious matter by far. The blebs should not be allowed to coalesce nor burst. Apply plain dry sterile gauze to prevent the

blebs from rupturing. Apply a saturated solution of sodium bicarbonate as in the first-degree burn.

Where the blebs have ruptured and in third-degree burns with infection, use a saturated solution of potassium permanganate (made by saturating boiled distilled water) for cleansing the infected areas. Apply as long as there is any evidence of pus and dress in sterile yellow vaseline.

Grubbe says under no circumstances allow any one to excise an X-ray burn, as the deep tissues have no more vitality than the superficial tissues and will not granulate.

Conclusions.

If conclusions are admissable from my small number of cases the following may be drawn:

1. The X-ray has a large field of usefulness, especially in non-malignant cases.

2. In malignant cases it should be used in the curable cases and should not be omitted from the incurable ones, as life may be prolonged and pain relieved.

3. The X-ray should not replace surgery, but should supplement it. Where malignant growths are removed surgically, the X-ray should always be used immediately following the operation, without waiting for cicatrization.

[1]At time of going to press this negro is completely cured of adenitis, only a few small fibrous lumps remaining in neck.—*Author's Note.*

THE DIFFERENTIAL DIAGNOSIS OF LESIONS IN THE UPPER RIGHT QUADRANT.*

L. J. Efird, M. D.,
Tampa, Fla.

In presenting this subject I realize the enormity of my task. I know that it is inexhaustible, so I am going to simply name some of the many lesions we have to think of in connection with trouble in the upper right quadrant, and will limit myself for discussion to four very important conditions that may be confused with one another, with symptoms referable to this region.

First of all let me emphasize the fact that it is almost impossible to arrive at a correct diagnosis without a careful family and personal history of your patient, coupled with a very painstaking and exhaustive physical examination, this to include the use of the X-ray, and examinations of the blood and urine. At times it may seem tedious and commonplace to both patients and physician to lay stress on data such as age, occupation, general habits of diet, previous illnesses, etc., but neglect of one minor detail may distort the clinical picture and lead the diagnostician very seriously astray.

The conditions we have to think of may be named as follows: Sub-phrenic abscess, pneumonia of the right lung, tumors and cysts of the liver. Tumors of the liver apart from those of the gall bladder and bile ducts have little practical interest except from the aspect of diagnosis, for only in a very few exceptional cases, so far, has it been possible for the surgeon to attempt any radical cure. With the exception of adenoma, benign solid tumors of the liver are surgical rarities. 96 per cent of liver tumors are secondary.

Hydatid cysts of the liver may exist and produce no signs nor symptoms unless they become very large; here then we may get fluctuation and fremitus and the signs of a tumor. Patients of Greek birth seem to be especially susceptible. In gummata of the liver the Wassermann reaction is a valuable aid to diagnosis. Hepatoptosis is a rare condition. Carcinoma of the gall bladder can usually be palpated. It is hard and nodular, not much abdominal rigidity. Long history of attacks of biliary colic and recent pronounced loss of flesh. Sooner or later we have a jaundice which deepens and persists. Renal calculus, in this the pain is usually in the loin, intensified by fist percussion. The urine is often albuminous and sometimes contains blood; we will have frequency of urination, pain radiating to the testicle and

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

penis and history of the typical nephritic colic. An X-ray examination will generally clear up the diagnosis. In hydronephrosis we have a mass, not painful, in the loin, dull on percussion which comes and goes, a large urinary flow occurring as it disappears. In pyonephrosis we probably will have a similar mass, but painful; constitutional symptoms of suppuration, pus in the urine. Diagnosis will be rendered more certain by catheterizing the ureters.

Now the condititons I want to especially discuss are first, cholecytitis; secondly, abscess of the liver; third, ulcer of the duodenum, and fourth, appendicitis.

The clinical history of the majority of gall stone cases admits of an easy diagnosis. The chief things are that the symptoms appear in these gall stone cases in well defined, decided attacks of short duration, and in which after subsidence, there is an intermission of days, months or years frequently of perfect health, except in the complicated cases. The attacks come suddenly without warning, and there is an abrupt cessation which is as sudden as the onset. The formation of a stone requires several months, and during the antecedent period of gastro-intestinal catarrh we will have constipation, flatulence, loss of appetite, headache, uneasy sensations in the epigastrium or right hypochondrium, sallowness of the skin, slight jaundice, scantiness of urine and full of uric acid and may later contain bile. These symptoms indicating that we have an extension of our gastro-intestinal catarrh up into the bile ducts and gall bladder, giving us also a catarrhal cholecystitis and cholangitis.

Gall stones lead to enlargement of the gall bladder far less often than might be expected. In a middle aged patient in whom there has has not been any very definite attacks of biliary colic, the occurrence of progressive and considerable enlargement of the gall bladder, associated with deepening jaundice and no ascites, should arouse serious suspicion of there being a lesion of the head of the pancreas, which has extended along the pancreatic duct so as to occlude the common bile duct gradually. The commonest cause of these symptoms is either chronic pancreatitis or carcinoma of the head of the pancreas. The greater and the acuter the pain the more liable it is to be pancreatitis rather than a new growth. According to Murphy the pain of "an acute pancreatitis is so striking, so much in contrast with anything else that you just naturally arrive at a diagnosis by the intensity of the symptoms. The pain is prostrating, the attack fulminating. It is far worse than a biliary colic, worse than renal colic, worse than a perforation."

Gall stones sometimes cause an enlargement of the gall bladder, but when this is true there is decided tenderness and pain, especially upon palpation, associated with a rise of temperature, possibly with rigors, especially if the inflammation has spread to the bile ducts producing a suppurative cholangitis. Leucocytosis with a relative increase in the polymorphonuclears would indicate that in addition to gall stones there is a suppurative inflammation—empyema of the gall bladder. To quote again from Murphy, "in 100 cases with great sensitiveness over the gall bladder on perpendicular percussion there will usually be about four cases without lesion in the gall bladder. These four cases, as a rule, present very acute upper abdominal lesions which demand more immediate surgical relief than does an obstructed gall bladder, and so, if one operates these cases thinking them to be acute gall bladder lesions, the error is not expensive to the patient, but rather of advantage to him, since the operation allows us to make the correct diagnosis, and at the same time to institute immediate treatment usually urgently needed. These lesions are: Perforations of the duodenum and pyloric zone of the stomach, acute pancreatitis and appendicitis where the appendix is high up in the abdomen."

The three common lesions that one is likely to confound with a recurring inflamma-

tion of the gall bladder are: Appendicitis, obstruction to the outlet of the kidney and an infection involving the kidney. Perpendicular percussion will usually settle the matter if the trouble is in the gall bladder. The sinking in of the hand on the left side of the abdomen, and the comparative resistance to it on the right side is often a deciding factor if it is in the appendix. Fist percussion over the kidney, or the "jack knife" reaction (of Murphy) of the patient to the pain caused, gives one positive proof that the lesion is in the kidney. These tests can be made by all of us at the bedside of the patient, and if made properly and interpreted correctly we can state positively just where the lesion is. The microscope and the X-ray are great aids to clinch our diagnosis, but these three simple procedures are of more value in themselves than a whole series of pictures or a dozen blood counts.

The symptoms of abscess of the liver may be very definite and positive, or they may be misleading and obscure. I have seen several cases of amœbic abscess of the liver which had been treated several weeks for typhoid fever. Upon operation these cases were demonstrated to be amœbic abscesses. Kieffer sums up the chief symptoms under four heads: "Fever, sepsis, enlargement of the liver and pain." I would add, severe and intensified pain on fist percussion over the liver (this sign is always positive in liver abscess), and pain referred to the right shoulder and under the right scapula. Most of these patients have sweats. In amœbic abscess we get a history of amœbic dysentery. The enlargement of the liver very rarely enlarges in a downward direction, but enlarges upward, and sometimes reaches as high as the third rib. In large abscesses fluctuation may be obtained. The patient will lie on his right side, with the right shoulder pulled down and right leg drawn up. We will find a jaundiced condition in about one-third of the cases, in the cases where the bile ducts are compressed, or a cholangitis exists. A leukocyte count is of no practical value as there may or may not be a leuckocytosis. Never a leukocytosis with an amœbic abscess unless a mixed infection. An exploratory puncture would probably help to clear up the diagnosis, if we were fortunate and got our needle into the abscess, but this should not be made until we are ready and the patient is ready for a radical operation.

Sometimes ulcers in the duodenum exist without any symptoms until a sudden and perhaps fatal hemorrhage or perforation declares its existence. The pain in duodenal ulcer comes on just before meals, and is often called "hunger pain," and the patient often finds that some food taken will relieve the pain. This is explained by a spasm produced by the pylorus closing when there is food in the stomach, and the hyper-acid juice no longer gains access to the duodenum. It sometimes occurs significantly in the small hours of the morning. It is of a burning character and located in the right mid-line or along the costal border. This colicky pain, as said, is caused by pyloric spasm. These patients will not restrict their food to any great extent at first, consequently there is no appreciable loss of weight in the early stages. As the ulcer continues, however, the pain becomes more constant, the diet is then cut down, the patients are underfed and emaciation results.

A chronically diseased appendix is a positive menace to the health of the patient. Through the sympathetic nervous system its scroll of vexation is so far reaching that it may agitate every organ in the abdominal cavity, and cause it to masquerade under a mantle of symptoms so adroitly that any organ, though free from pathology, may become the recipient of an unjust accusation, and this is especially true of the liver. These patients are not sick enough to be in bed, not well enough to be at work. After two or three hours' work they become fatigued and feel unfit to meet the requirements expected of them. They think "liver trouble, bilious,"

and often the physician prescribes accordingly without going thoroughly into the case, and determining the real condition. Sleep is usually good, but not refreshing; appetite is variable, they could eat heartily, but are afraid, because they have a feeling of fullness and sometimes nausea after eating; usually a gassy feeling with distress amounting in some instances to pain; this pain is usually referred to the stomach and radiating to the right, or indefinitely through the bowels. Taking food moderately becomes a habit, and by observing a rigid diet these patients make themselves fairly comfortable. In most cases the bowels are obstinately constipated. Bilious again—more calomel, liver-tone, cascarets, etc. The general feeling of these patients is one of apathy. Many of them have been long and constant sufferers, and are really in a miserable state. They have drifted into a neuropathic state with an associated psychological condition that demands the most careful and exhaustive examination to disclose the real cause.

Others give marked evidence of a toxemia caused by the absorption of ptomains from the intestinal tract and are quite anæmic. If you ask them if they suffer pain they will put the hand over the region of the stomach, and with a sweep pass it over the entire abdomen. They will tell you that they get greater relief from enemas and from stomach washes than from drugs. Many of them are discouraged, for they have usually been the rounds, and no treatment has been of any avail. Oftentimes they are considered dyspeptics, neurotics, neurasthenics or hypochondriacs and are sent on to the neurologist.

Even indefinite as the symptomatology appears as is presented by these patients, it should permit the elimination without difficulty of gastric neurosis, gall bladder disease or kidney lesions, and a thorough examination, including a series of X-ray pictures after a bismuth meal, should eliminate from the picture atonic dilatation of the stomach, visceral ptosis and prolapse of the kidney, leaving for contention either a chronic duodenal ulcer or a chronic appendicitis, and we can usually decide correctly between these lesions after a careful study of our X-ray pictures.

Now just a few words as to acute appendicitis. The differential diagnosis between this and an acute cholecystitis would usually be easy if the gall bladder and the appendix were invariably in their normal positions. This is not, however, the case. Sometimes the gall bladder reaches as far as the ileocoecal region, whether the liver be movable or not, but more frequently the appendix is high and directed outward. At other times its position is in close proximity to the gall bladder. When the inflammatory process occurs above the line joining the anterior superior spine to the umbilicus, we have to do with appendicitis *if the pain or resistance* reach far *towards the side* and if the lumbar muscles respond to pressure, by contraction; but any inflammatory process *internal* to the external border of the rectus muscle must be ascribed to the gall bladder.

We may even have a certain amount of jaundice in acute appendicitis, and if the appendix lies near the gall bladder, so that the biliary passages are secondarily involved in the inflammation, the jaundice may become very pronounced.

PROPAGANDA FOR REFORM.

Camphor, Natural and Synthetic.—Though having the same chemical composition, natural camphor is levorotatory while synthetic is optically inactive, it being a mixture of levorotatory and dextrotatory molecules. Synthetic camphor, used externally and in moderate doses internally, has been reported to have the same effects as natural camphor. The evidence is however unsatisfactory. The natural product being readily obtainable, there is no warrant for the therapeutic use of synthetic camphor until more conclusive evidence is at hand. (*Jour. A. M. A.*, October 30, 1915, p. 1555.)

Cardui, the Story of a Nostrum.—Harper's Weekly (October 23) traces the growth of the Wine of Cardui business. The author, stated to have been employed by the manufacturers, denies that the nostrum will perform the many wonders claimed for it by the manufacturers, and says that there is one miracle that Cardui can perform—it can make money. (*Jour. A. M. A.*, October 23, 1915, p. 1466.)

Elixir Calcylates Compound. — Each dessertspoonful of this specialty is said to contain the "equivalent of" Calycylates (calcium and strontium di-salicylate) 5 grains, resin of guaiac ½ grain, powdered digitalis leaves ¼ grain, powdered squill ¼ grain, extract of colchicum seed ¼ grain, cascarin 1-16 grain, aromatics. One or two dessertspoonfuls are to be taken 3 to 4 times a day. The mixture is to be given in cases of "rheumatism, lumbago, neuralgia, sciatica, etc." If a salicylate is indicated it should be given in sufficient amount in the form of sodium salicylate; the patient should not be given a preparation containing ingredients in the way of guaiac, skuill and colchicum which are not needed. Digitalis is rarely indicated in inflammatory rheumatism and it should never be given in a multiple mixture. (*Jour. A. M. A.*, April 22, 1916, p. 1307.)

Episan (Brobor).—The Council on Pharmacy and Chemistry finds Episan, recently renamed Brobor, ineligible for New and Nonofficial Remedies. Neither name indicates the active ingredients—potassium bromid, 44.3 per cent, borax 41.2 per cent, zinc oxid 3.68 per cent, and amyl valerate 4 per cent. A physician prescribing the preparation under either name would not realize that he was administering borax, and therefore would not take the precaution to watch the intestines and the kidneys. Also, he would not realize that the treatment was essentially a bromid treatment. There is no evidence to show that borax is harmless, as claimed, or that either borax or zinc oxid is a nerve sedative. (*Jour. A. M. A.*, Sept. 25, 1915, p. 1130.)

Grant's Epilepsy Cure.—Fred E. Grant, Kansas City, Mo., sells an "epilepsy cure" on the mail order plan. Analysis in the A. M. A. Chemical Laboratory demonstrated it to be a bromide mixture containing as its essential ingredients about 15.8 gm. potassium bromid and 0.9 gm. sodium bromid per 100 c.c. (*Jour. A. M. A.*, Sept. 4, 1915, p. 894.)

Micajah's Uterine Wafers and Piso's Tablets.—The A. M. A. Chemical Laboratory has determined that Micajah's Uterine Wafers and Piso's Tablets are practically identical—a mixture of dried alum, borax and boric acid. While Micajah's Uterine Wafers are advertised to the medical profession, Piso's Tablets are a "patent medicine." The claims made to the public for Piso's Tablets are silly and mischievous—but no more so than those made to the medical profession for Micajah's Uterine Wafers. (*Jour. A. M. A.*, Sept. 25, 1915, p. 1128.)

Mixed Vaccines.—There is no rational basis for the use of mixed vaccines. So far as infectious diseases, the etiology of which is known, are concerned they are caused by a single, specific organism, as for instance in diphtheria, tetanus, meningitis, typhoid fever. The mere presence of a multiplicity of organisms in cultures taken from an infected region is no sign that the symptoms are due to all the organisms. The use of the stock mixed vaccines of commerce is irrational because it is based on the conception that infections are caused by more than one kind of micro-organism; it is harmful because it encourages superficial examination, slipshod diagnosis and routine treatment without individualization; it is unnecessary because, when the physician desires to use more than one vaccine, he can inject them separately or mix them at the time of injection. (*Jour. A. M. A.*, Aug. 21, 1915, p. 719.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.
Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.
Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.
GRAHAM E. HENSON, M. D. ..... *Jacksonville*

ASSOCIATE EDITORS.
THOMAS TRUELSEN, M. D. ..... *Tampa*
J. K. SIMPSON, M. D. ..... *Jacksonville*

COLLABORATORS.
RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa ..... *Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville ..... *Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville .... *Eye, Ear, Nose and Throat*
J. L. KIRBY-SMITH, M. D., Jacksonville ... *Dermatology*
E. G. BIRGE, M. D., Jacksonvllle ..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.
E. W. WARREN, *M. D.*, President ..... *Palatka*
JOHN A. SIMMONS, M. D., First Vice-President ..... *Arcadia*
E. VAN HOOD, M. D., Second Vice-President ..... *Ocala*
JOHN LONG, M. D., Third Vice-President ..... *Lake City*
GRAHAM E. HENSON, M. D., Secretary-Treasurer ..... *Jacksonville*

EXECUTIVE COMMITTEE
R. H. MCGINNIS, M. D. ..... *Jacksonville*
JOHN MACDIARMID, M. D. ..... *DeLand*
R. N. GREENE, M. D. ..... *Chattahoochee*

COUNCILLORS.
First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920
Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917
Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917
Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville .. 1918
Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala .. 1919
Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa 1919
Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna 1918
Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920
Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918
Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia 1920
Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West 1917

COMMITTEE ON SCIENTIFIC WORK.
F. C. MOOR, M. D. ..... Tallahassee
C. D. CHRIST, M. D. ..... Orlando
F. F. FERRIS, M. D. ..... Apalachicola

Next Meeting — Atlantic Beach — May, 1917

OUR CANCER NUMBER.

In submitting this, our second annual cancer number of THE JOURNAL to the profession of the State, we do so with the earnest hope that it will not fall short of its purpose: to stimulate a greater interest in the cancer problem as it presents itself to us today, in order that we may feel more keenly our individual responsibilities in aiding in the solution of the problem.

The enormity of the cancer situation with its yearly toll of eighty thousand lives in this country should not discourage us, but should lead us to give our best efforts to conquering it. The problem presents so many sides exposed to vulnerable attack that we will certainly make a destructive impression upon it if everyone does his share of the work.

Of course the ultimate discovery of the actual activating cause of cancer, and the specific cure—if it ever comes—will most probably come from some of the great cancer research laboratories; but as the problem presents itself now removal by surgery in the earliest stages offers the best hope of cure. We do not know the actual cause, nor have we a specific cure, other than the removal of the growth; but we do know that a vast number of cancer deaths are unnecessary, and could be prevented by operation in the early stages of the growth, or in the precancerous stage. This is the side of the problem exposed to the attack of the profession at large—the family physician. He is the one to look for and discover precancerous lesions, and see that they are removed before they become cancerous. He is the one to instruct the laity concerning the danger of neglecting the signs of impending cancer. He is the one whose memory THE JOURNAL hopes to jog.

THE SOUTHERN MEDICAL ASSOCIATION.

The annual meeting of the Southern Medical Association will be held at Atlanta, November 13, 14, 15 and 16. The outstand-

ing feature of the meeting this year will be the clinics which will be held from 8 to 10 every morning, to be conducted by visiting clinicians.

The Railway Surgeons, the Public Health Section and the Conference on Medical Education will hold meetings on Monday, the 13th. On the evening of this day a public meeting will be held with addresses by prominent health workers.

The programs for the Sections on Medicine, Surgery, Eye, Ear, Nose and Throat, Public Health and that of the Southern States Association of Railway Surgeons are practically complete and indicate that these meetings will, as usual, be well worth attending. The discussions on the various papers read, always an interesting part of a scientific program, will be reported by expert medical stenographers employed for the occasion.

On Tuesday night, the 14th, a reception will be held at the Capital City Club. On Wednesday a "Georgia Barbecue" will be a feature entertainment conducted at the Druid Hills Country Club. This club possesses one of the finest golf courses in the South. A golf tournament is planned for Friday, the 17th.

Always a feature, the Alumni reunions this year are receiving especial attention.

All railroads east of the Mississippi river have granted reduced rates and an attendance of over two thousand members is anticipated.

Atlanta is an ideal city for the holding of any convention and with its excellent hospital and hotel facilities all guests are certain to be kept thoroughly interested and well entertained.

It is to be hoped that the Florida Medical Association will send a good representation to the meeting.

PLAYING TO THE GRANDSTAND.

"Grandstander" is a term of more than mild reproach used to characterize the athlete who plays his game in showy fashion with an eye to the plaudits of the onlooking multitude. In football, he is always limping after a tackle; in baseball, he is excessively active, making unnecessary motions and attempting to cover ground he was never meant to cover; in golf, he adjusts his tee with a nicety which can have no effect on the distance of his drive, and if he "slices," the "gallery" is indulged with an exceedingly technical discussion of just how it happened. No one is so inclined to "grandstand" as the American officeholder or public official. The medical aspects of the matter are being displayed in the present epidemic of infantile paralysis. The measures employed by some officials to stay the progress of the epidemic, while apparently logical in every instance, at times impress the average observer as being merely an attempt to play to the grandstand. In some communities the health officers appear daily in interviews in which they call attention to their immense activities in preventing the spread of the disease. Every move is chronicled in the newspapers, and press notices are sent to those papers which fail to interview the official personally. Commissions are appointed to investigate when there are no funds for such purposes, and in some instances when there are not enough cases to form a respectable basis for an investigation. Frequently a "grandstander" in athletics is rewarded merely by the hisses of those whose encomiums he seeks. It would not be strange if a similar fate should befall some of those public officials who carry the unsportsmanlike attitude of the "grandstander" into the care of the public's health.—*Journal of the American Medical Association.*

PARKE, DAVIS & COMPANY, 1866-1916.

Parke, Davis & Company celebrate their golden jubilee on the 26th of the present month. In connection with this celebration they have issued a "Jubilee Souvenir," an

attractive booklet giving the history of this enterprising house from the date of its organization to the present time. The booklet contains cuts illustrating the original home of the organization and of the buildings occupied as the firm developed to its present status of unexcelled facilities. Portraits are also shown of "Leaders of the Past," together with those now actively engaged in the various departments. Of especial interest are the scenes illustrating Parkedale Farm. Our space will not permit a more full review of this interesting souvenir, but any physician desiring a copy may secure one by addressing the firm.

Cancer Department

"In the early treatment of cancer lies the hope of cure."

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

ONE OF THE RESULTS OF INSTRUCTION OF THE LAITY CONCERNING CANCER.

An elderly lady, Mrs. X, consulted a physician a month or so ago about a urethral caruncle with the view of having it removed. In questioning her relative to its duration and symptomatology the physician received from her the following story:

"Doctor, this little growth was accidentally discovered several years ago while in bathing. It has never given me the slightest pain or discomfort of any kind, does not cause any increased desire to urinate, and in fact I am never made aware of its presence by local symptoms. At first its presence did not worry me at all, but now it preys upon my mind because I am afraid it will become cancerous. I have had one experience of a similar nature in the family already. I have read in one of the circulars on cancer that moles and warts which were constantly irritated were apt to become cancerous. Soon afterward I learned that my sister, who is just older than I, had a mole in the groin which was giving her a good deal of trouble. She had a hernia and the mole was in such position that it was being constantly irritated by the truss which she wore. It began to get a little larger, and became ulcerated, and she began using salves of various kinds to relieve it. They did no good, and I advised her to stop using them and to have the mole removed. She refused to do this, so I then tried to get her to leave off the truss, so that the cause of the irritation would be removed. She could not leave off the truss without a good deal of discomfort, so she consulted a physician about the condition. He prescribed an antiseptic powder for the mole, but did not advise its removal. The powder did not relieve the condition so she was forced to leave off the truss for a week; soon after dispensing with the truss the hernia became strangulated and a physician was summoned. When he examined the hernia he found that the mole had become cancerous, was as large as a hen's egg and that hope of its complete removal was passed.

"My sister is now taking X-ray treatment for a cancer which could certainly have been prevented had she taken my advice in the first place. Therefore I wish to have this little growth of mine removed before it becomes a cancer."

This woman showed an unusual amount of common sense and a little knowledge of the cancer problem, and used them as the basis for sound reasoning and excellent advice, practicing what she preached.

There are many physicians with a great deal more technical knowledge, but a great deal less common sense, who are failing to grasp the significance of precancerous lesions and therefore failing to give the kind of advice so necessary to the reduction of the enormous yearly cancer mortality. This incident, an authentic one in its every detail,

is a very striking indication of what can be accomplished by a little instruction to the laity concerning the cancer problem. Every practicing physician should feel it his duty to familiarize himself with the principles of cancer prevention, and to become a teaching center in his community, imparting these essential facts to his patients.

Reviews from Current Literature

CANCER OF THE UTERUS

Watkins, T. J.: Prophylaxis of Uterine Cancer, Surg., Gyne. and Obst., 1916, Vol. XXII, p. 442.

This paper deals with probable or possible means of prevention of cancer of the uterus.

From the meager knowledge which we have of cancer, it must be inferred that the irritation and circulatory disturbances resulting from traumatisms can be the only possible contributing factors in the development of cancer of the cervix, and that traumatisms of the cervix are not frequently a contributing cause of cancer.

An erosion of the cervix should receive attention. They are most important as points of focal infection, but may be etiologic factors in cancers. The more extensive ones, with deep lacerations, extensive erosions and glandular degeneration, require operative treatment.

Hemorrhage, occurring after the menopause has been established for some time, should as a rule indicate hysterectomy. If cancer is not found, the operation is justified as a prophylactic measure. Fewer mistakes in diagnosis are made by considering all of this group cancer than by the use of other means for diagnosis in individual cases. This has been the author's practice for some years and the results have been highly satisfactory.

Incisions into and curetting of cancers should be usually avoided.

Morris H. Richardson strongly advocates the removal of all tumors as a prophylaxis of cancer. This principle of treatment, the author believes, should apply to uterine tumors. All uterine tumors should be removed as a prophylaxis of cancer, irrespective of other indications. G. R. H.

CANCER OF THE UTERUS

Peterson, Reuben: The Extended Operation for Carcinoma of the Uterus. Surg., Gyne. and Obst., Vol. XXIII, 1916, p. 237.

This paper, read at the American Gynecological Association in May, 1916, is supplementary to Peterson's earlier paper before the same society in 1912. He draws the following conclusions:

Further experience with the radical abdominal operation for cancer of the uterus confirms the belief that it is an exceedingly dangerous procedure and will always be attended by a high primary mortality.

Even if the percentage of operability of cases of cancer of the uterus markedly increases in this country and elsewhere there will always be border-line cases attended by a high primary mortality.

This is true because it is not always possible even with the greatest care in examination of the patient prior to operation to estimate the extent of the disease.

Errors in judgment mean death from shock if the disease be too far advanced or failure to complete the radical removal of the cancerous uterus.

However, in spite of a high primary mortality it is the only procedure, with the possible exception of the extended vaginal operation, which holds out any reasonable promise of a permanent cure.

Primary and end-results of the radical operation for cancer of the uterus must be considered together in order to judge of the good accomplished in a given series of cases.

Unless the operation be radical the end-results will be poor and if they be radical the primary mortality must be high.

If the end-results be poor the burden of the proof is upon the radical abdominal op-

erator to show why he did not choose a much safer palliative procedure.

Since 1912 experience with 14 ordinary panhysterectomies for cancer of the fundus shows worse primary and end-results than 11 cases previously reported where radical removal was performed.

This showing and the results following removal of carcinoma of the fundus by various methods in the Wertheim clinic, as reported by Weibel, lead to the conclusion that because carcinoma of the fundus is more easily cured than when the cervix is involved, we are not justified in thinking it can be treated any less radically than carcinoma of the cervix.

The primary mortality in 59 cases of cancer of the cervix and fundus treated by radical abdominal operation was 25.4 per cent.

The extent of the involvement in the cancer of the uterus can only be determined definitely after the abdomen has been opened. If the parametria are not too much involved and the condition of the patient's kidneys, heart and blood-vessels warrant a prolonged and depressing procedure it is justifiable to attempt the radical operation.

During the past four years 124 cases of cancer of the uterus have been seen in the university and private clinics. The disease was so far advanced in 36 cases that operation was refused or nothing was done. The cautery method was tried in 58 cases and proved valueless except as a palliative procedure.

In spite of attempts to educate the public regarding cancer, the cases of cancer of the uterus seen during the past four years were more advanced than has formerly been the case.

The end-results in 51 patients operated upon five or more years ago were most gratifying, combining fundus and cervix cases; 27 of the 51 patients were alive and well after five years or 56.2 per cent of all cases operated upon, while 69.2 per cent of all those surviving the operations were alive after five years.

Of 40 cases of cancer of the cervix operated upon, five years or more ago, 18 of those surviving the operation are alive and well today. Thus 47.3 per cent of the total number remain cured after five years while 62 per cent of those surviving the operation remain cured.

These percentages were obtained by Wertheim's formula where patients dying from intercurrent disease or those lost track of are subtracted from the total number of operative cases or from the number surviving.

The length of time elapsed since the operations upon the 18 patients who are alive and well vary from five up to thirteen years. There is every reason to think that these patients are permanently cured, although one patient did have a recurrence and died between five or six years after the radical operation.

In spite of the high primary mortality the end-results in those surviving the operation encourage us to continue with the procedure in suitable cases. G. R. H.

CHLOROMA

Gould, Everett W., and LeWald, Leon Theodore: Chloroma, a Report of Two Cases with the Roentgenologic Findings. Archives of Pediatrics, 1916, Vol. XXXIII, p. 417.

The name chloroma was given the disease on account of the green color of the tumors removed from the body. The nature of the coloring matter is unknown. It is a rare disease, the characteristic clinical features being exophthalmos, produced by retrobulbar lymphoma; swellings of the temporal and occipital regions; enlargement of spleen and lymphatic glands throughout the body; severe and progressive anæmia causing weakness, fever and emaciation. The condition arises from a hyperphasia of the parent cells of the leucocytes causing neoplasm-like formation in almost all the tissues of the body. It is a disease largely confined to children and especially to males. The associated anæmia depends not upon any toxic condition but upon a deficient

production of red cells. In most of the reported cases there is a characteristic leukemic blood picture at one time or another. Till recently this condition was looked upon as a lymphoma and referred to as green cancer. Histological observations show that it does not belong to the sarcoma group of neoplasms but should more properly be classified with the leukemias, differing from other forms of leukemia in its marked neoplastic character and the formation of green infiltrations and metastases. The authors submit a lengthy report of two cases. J. D. L.

SARCOMA OF THE KIDNEY

Friedlander, Alfred: Sarcoma of the Kidney, Treated by the Roentgen Ray. Am. Journal Diseases of Children, 1916, Vol. XII, p. 328.

It is generally accepted that the only hope in cases of sarcoma of the kidney in childhood lies in early nephrectomy. Unquestionably this should be done in those cases where there is held out any prospect of success, notwithstanding the mortality under surgical procedure is very high. If nephrectomy is contraindicated in any case of kidney sarcoma the Roentgen ray should be given a thorough trial. The author reports a case of advanced sarcoma of the kidney treated by the Roentgen ray which terminated fatally; and in view of this termination he deems it worth while to put on record this failure. The pathological findings in the case reported showed a marked degenerative process in the affected kidney and there were indications that the Roentgen ray treatments were at least partially the cause of the retrogression.

J. D. L.

NEW AND NONOFFICIAL REMEDIES.

Arbutin-Abbott.—A non-proprietary brand complying with the standards for Arbutin N.N.R. The Abbott Laboratories, Chicago. (*Jour. A. M. A.*, August 19, 1916, p. 586.)

Ampules Mercuric Salicylate-Squibb, 0.065.—Each ampule contains 0.065 gm. mercuric salicylate, N.N.R., in 1 c.c. of sterile suspension. E. R. Squibb & Sons, New York.

Ampules Mercury Iodide (Red) 1 Per Cent, in Oil-Squibb.—Each ampule contains 1 c.c. of a solution of red mercuric iodide and anesthesin, each 0.01 gm., in a neutral fatty oil. E. R. Squibb & Sons, New York. (*Jour. A. M. A.*, August 19, 1916, p. 586.)

Ampoules Quinine Dihydrochloride-Squibb, 1 Gm.—Each ampule contains 1 gm. quinine dihydrochloride, N.N.R., in 2 c.c. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine Dihydrochloride-Squibb, 0.5 Gm.—Each ampule contains 0.5 gm. quinine dihydrochloride, N.N.R., in 2 c.c. of sterile solution. E. R. Squibb & Sons, New York.

Ampules Quinine Dihydrochloride-Squibb, 0.25 Gm.—Each ampule contains 0.25 gm. quinine dihydrochloride, N.N.R., in 2 c.c. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine and Urea Hydrochloride-Squibbs, 1 Gm.—Each ampule contains 1 gm. quinine dihydrochloride, N.N.R., in 2 c.c. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine and Urea Hydrochloride-Squibb, 0.5 Gm.—Each ampule contains 0.5 gm. quinine and urea hydrochloride, N.N.R., in 2 c.c of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine and Urea Hydrochloride-Squibb, 0.25 Gm.—Each ampule contains 0.25 gm. quinine and urea hydrochloride, N.N.R., in 2 c.c. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine and Urea Hydrochloride-Squibb, 1 Per Cent.—Each ampule contains 5 c.c. of a sterile 1 per cent solution of quinine and urea hydrochloride, N.N.R. E. R. Squibb & Sons, New York.

Ampoules Sodium Cacodylate-Squibb, 0.13 Gm.—Each ampule contains 0.13 gm.

sodium cacodylate, N.N.R. E. R. Squibb & Sons, New York.

Ampoules Sodium Cacodylate-Squibb, 0.05 Gm.—Each ampule contains 0.05 gm. sodium cacodylate, N.N.R. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, August 5, 1916, p. 437.)

Brain Lipoid.—Impure Kephalin.—This is an ether extract of the brain of the ox or other mammal, prepared according to the method of Howell and Hirschfelder. It has the properties of thromboplastic substance described above. It may be applied direct to the tissues or on sponges or pledgets, or it may be used in the form of an emulsion with sodium chlorid solution.

Fibrin Ferments and Thromboplastic Substances (Kephalin).—The clotting of blood has been shown to be due to the action of the fibrin ferment on the fibrinogen of the blood. The fibrin ferment (thrombin) exists in the blood in the form of prothrombin which is converted into thrombin by the action of calcium and thromboplastic substance (thromboplastin). Kephalin, prepared from the brain, has the properties of thromboplastin. Preparations containing thromboplastin are said to be useful, when applied locally, in the treatment of hemorrhages, especially hemorrhages from oozing surfaces, scar tissue and nosebleeds. The intravenous use of thromboplastin in certain conditions has also been proposed.

Radium Bromide, Schlesinger Radium Co.—It complies with the standards of N.N.R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Publisher's Notes

HALF A CENTURY'S PROGRESS

October, 1916, points an epoch in the history of Parke, Davis & Co. The house was founded in 1866—just fifty years ago this month—largely upon the optimism of three or four determined men, backed by a capital that would seem insignificant today. There was nothing in its unpretentious origin to foretell the success of after-years. And by success we mean not merely material prosperity, but also that broader and more enduring success that is based upon good-will and confidence.

Manufacturing pharmacy was then a crude, imperfect art. Bacteriology, pharmacology and biological pharmacy were as yet unborn. There were no curative sera or vaccines in those days. Prophylaxis was in its infancy. Standardization was unknown.

Fifty years have wrought marvelous changes in means and methods for the treatment of human ills. The materia medica has been amplified beyond the dreams of the earlier investigators. Knowledge of pathology has immensely broadened. The empiricism of the past has given way to rational therapeutics, and medicine is taking its rightful place among the sciences.

In all these forward movements Parke, Davis & Co. have had some part—notably as discoverers of new vegetable drugs, as inventors of new chemical compounds, as pathfinders and producers in the field of biological manufacture, as investigators in original research, as pioneers in both chemical and physiological standardization.

The past half-century, as we have intimated, has been remarkable in its contributions to the newer materia medica. What will the next fifty years bring forward? Time alone can write the answer. Ours is a progressive age. The science of medicine has not reached its highest development. The physician's armamentarium will be further enlarged and fortified. New remedial agents will come into being. Many existing products will be improved. And with the fulfillment of these conditions, Parke, Davis & Co. (if we may judge the future by the past) are certain to be identified.

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, November, 1916 Number 5

ORIGINAL ARTICLES

PYELOGRAPHY AS AN AID TO THE DIAGNOSIS OF CERTAIN OBSCURE RENAL AND ABDOMINAL CONDITIONS.*

HARRY A. PEYTON, M. D., AND
EDWARD JELKS, M. D.,
Jacksonville, Fla.

It is our object in presenting a paper on this subject to call the attention of the profession to a certain class of cases in which the diagnosis, even after the ordinary means of examination have been exhausted, still remains in doubt and to show how by means of pyelography valuable additional information may be obtained. By pyelography we understand the radiographing of the renal pelvis and ureter after they have been filled with a shadow-casting substance. Pictures thus obtained are called pyelograms or utero-pyelograms. This method of examination is not only of extreme interest but absolutely essential to the thorough understanding and diagnosis of these conditions. Finally, in order to treat the subject in a practical manner, we wish to report certain illustrative cases by giving the case histories and demonstrative pyelograms. While it is entirely foreign to our purpose to enter into the technique of pyelography and ureteral catheterization, we feel that this should not be passed over without a word of warning as to the danger of improper methods of performing pyelography, and also a few words as to the contraindications to its employment. There have been several reports of death as the result of injection of collargol into the renal pelvis. These have been due without exception to errors in technique. If instead of a syringe, the collargol or thorium is injected through a funnel by gravity, there will be no discomfort to the patient or disastrous results. There will not be enough pressure to cause injury to the kidney parenchyma. It is impossible by this method to rupture the kidney or ureter. The experience at the Mayo clinic in more than one thousand cases done by the gravity method is a striking proof of the harmlessness of this procedure.

Practically all workers in this field agree on the proper selection of cases for pylegraphy and warn against its use in hypersensitive and frail individuals who react violently to manipulation of the urinary tract. It is also contraindicated in cases of marked renal insufficiency, emaciation or acute infection. Of course, the method should not be used where a definite diagnosis can be made by other means, as, for example, in large hydronephrotic kidneys.

With this brief discussion of the contraindications to the use of pyelography, let us see what are its indications and in what conditions we may expect to gain information further than that obtained by the usual methods of examination.

1. One of the most frequent uses of pyelography is to determine that a given shadow is within or without the ureter or kidney. Gallstones, vein stones and substances in the gastro-intestinal tract may cast shadows in the region of the kidney or ureter. Injection of the ureter with opaque substances and then a pyelogram will show conclusively if the suspected shadow is within or without the urinary tract. It also determines at the same time if there has been any dilatation along the tract due to the stone obstruction.

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

2. Various forms of ureteral obstruction and hydronephrosis are clearly demonstrated by this method of examination.

3. Changes in the kidney pelvis are easily demonstrated. Pyonephrosis and hydronephrosis give pictures which can not be mistaken for any other condition.

4. The position of the kidney and its excursion in the prone and vertical positions can be studied and the question of kink in the ureter can be cleared up. Kink may be shown to be present in the vertical position and absent when the patient lies down and the kidney returns to its normal place.

5. Tumors of the kidney give a definitely characteristic picture.

6. Various sorts of congenital anomalæ of the ureter and kidney are possible to demonstrate with a pyelogram.

In diagnosing kidney lesions the whole range of possibilities must be carefully considered, and by systematic examination the field narrowed down to the ultimate diagnosis. Thus by careful study of the combined secretion of the two kidneys, cystoscopy, ureteral catherization, the study of the separate urines, the employment of functional tests, and, finally, satisfactory radiograms of the entire urinary tract, generally the diagnosis can be definitely made. However, there are a considerable number of cases where even after the above steps have been taken, we are unable to say with decision whether or not the trouble might not be one of two or three conditions. It is here that pyelography will usually bring us to our final diagnosis.

Case 1. Hospital No. 1469—Mrs. G. L. B., age 48. Referred by Dr. D. G. Humphreys, Fernandina, Fla.

Complaint: Constant pain, with acute exacerbations, in the right lower abdomen, of six years' duration. The pain, as stated, was more or less constant in character and was felt with maximum intensity in the region of the appendix and right groin, no lumbar pain. There was frequency of urination with burning. While undergoing a urological examination in Baltimore, the patient was seized with an attack of acute pain in the right lower quadrant of the abdomen. The appendix was removed. This did not give relief from her symptoms. She had also had previously a plastic urethral operation for the removal of a caruncle, and she stated that the urethra has never felt normal since. The urinary symptoms were thought due to the caruncle.

Physical examination is entirely negative with the exception of slight tenderness over the pain area and slight muscle rigidity.

Figure 1, Case 1. Stone in lower ureter with normal pelvis and ureter. Collargol 10 per cent.

Examination of urine disclosed a few pus cells and bacilli in a centrifugalized stained smear. X-ray examination showed a small irregular shadow in the region of the right pelvic ureter, which was interpreted as a ureteral stone. Cystoscopic examination revealed a normal bladder. The ureteral orifices were easily seen and catheterized, both catheters apparently reaching the renal pelvis without obstruction. Right ureter contained pus and bacilli, the left was normal.

Realizing that there are numerous shadows seen in the region of the pelvic

ureter, which are extra-ureteral (due in most instances to phleboliths), and since no obstruction was encountered by the ureteral catheter, it became necessary for us to accurately localize the suspected shadow. This was done by collargol injection into the ureter aand making a radiogram which showed very clearly the shadow to be within the ureter. The stone in this case was not offering sufficient obstruction to cause a hydronephrosis or dilated ureter.

The stone was removed through an extra-peritoneal exposure and incision of the ureter. Since operation the patient has been in perfect health.

Case 2. Hospital No. 1494—Mr. C. W. J., age 28. Referred by Dr. Stanley Erwin.

Complaint: Pain in the left back and abdomen, chills, fever and sweats.

Diagnosis: Infected hydronephrosis in left kidney. Congenital absence of right kidney.

Past History: Denies lues. Admits one attack of gonorrhea several years ago.

Present Illness: Patient dates his trouble from the time he was thrown from a horse five years ago. From this time he has had recurring attacks of pain in the left back and in the left half of the abdomen. The pain is dull in character and occasionally radiates to the bladder. With the onset of these attacks he has chills, fever and sweats. There are no symptoms referable to the bladder except the referred pain as noted. Patient states that he has lost several pounds in weight and that he feels bad generally.

Present examination: Sparsely nourished man. Slight rigidity of upper half of left rectus muscle and over left kidney on bimanual palpation, pain on fist percussion. A mass can be felt in this region, which is evidently an enlarged or prolapsed kidney. Right kidney not palpable. Temperature while under observation from 100 to 104. Pulse correspondingly elevated. White blood count 13,000.

Urine: Cloudy, shreds, albumin trace. Centrifugalized stained smear shows pus cells and a large number of large thick bacilli. Physical examination otherwise negative. Cystoscopic examination after acute symptoms subsided. No obstruction to the passage of the cystoscope. Bladder capacity normal. The bladder wall is everywhere normal in appearance and the left ureteral orifice easily seen and catheterized, the catheter apparently reaching the pelvis of the kidney. A prolonged and repeated

Figure 2, Case 2. Hypdronephrosis in solitary kidney. Note clubbing of terminal calices and failure of collargol to descend beyond uretero-pelvic junction. Collargol 10 per cent.

search for the right ureteral orifice was unsuccessful. The left kidney functionated normally and the catheterized specimen showed the same characteristics as the urine from the bladder. Phenolsulphonephthalein was injected intravenously and appeared in the urine in four minutes, with a total excretion of 40 per cent for one-half hour. This was exactly the amount that was recovered by a previously performed test done without ureteral catheterization. This is an important corroborative fact in arriving at

a diagnosis of solitary kidney. With the catheter in situ the patient was put in the upright position, when there was a continuous flow from the catheter which lasted for about a minute and measured several ccs. in quantity. The patient was next taken to the X-ray room, where the left renal pelvis was filled with collargol and pyelograms made. This showed a typical hydronephrosis with dilatation of the pelvis and calices.

Case 3. Hospital No. 1413, Mrs. P. A. S., age 35. Referred by Dr. J. V. Freeman.

Diagnosis: Hydronephrosis with stone (right kidney); pyonephrosis with stone (left kidney).

History of recurring attacks of tonsilitis for several years. Following the birth of one of her children, she was catheterized for several days and states that the bladder function has never been entirely normal since.

The patient has been conscious of pain just anterior to the left anterior spine of the ilium for the past year. This pain at times becomes acute, when general abdominal discomfort and pain in front of the right hip is felt. Two years ago patient had an attack of frequent and urgent urination which lasted for a short time. She voids at normal intervals except during premenstrual period when there is frequency. Has had no pain on urination or hematuria. Never passed stone. It will be noted that there has never been pain in either kidney region nor has the pain been referred.

Examination shows an exophthalmic goitre and lacerated perineum with second degree prolapsus uteri. Neither kidney is palpable or tender on bimanual palpation or fist percussion. The physical examination is otherwise negative.

Catheterized specimen of urine shows the following: Cloudy, albumin, low sp. gr., negative for sugar; microscopically many pus cells and bacilli. No casts or red cells.

Cystoscopic examination: Bladder capacity normal. Bladder wall and trigone normal. Both ureteral orifices are patulous and functionate sluggishly. Cloudy urine is seen issuing from each side. Both ureters were next catheterized, the catheters apparently reaching the pelvis. Specimens of urine were collected from each kidney. Both urines showed the presence of severe infection, pus and bacteria. The kidney function test, phthalein, showed that the right kidney function was slightly reduced and the left kidney almost totally destroyed,

Figure 3, Case 3. Ureterogram showing dilatation of upper portion of ureter. Stones in both kidneys. Collargol 10 per cent.

there being only a trace of the drug excreted from this kidney in one-half hour. The radiogram shows one large calculus in the right kidney and three smaller ones in the left; ureters and bladder normal. A ten-per-cent solution of collargol was run into the right ureter and radiogram made. This demonstrates a dilated ureter with an obstruction at the uretero-pelvic junction. Two attempts failed to show collargol shadow beyond this point. The stone in the right kidney was subsequently removed by

posterior pyelotomy and the pre-operative diagnosis substantiated.

NOTE: The left kidney was subsequently removed and found to be the seat of extensive pyonephrosis with stone.

Case 4. Hospital No. 1949—Mrs. C. J. P., age 50 years.

Diagnosis: Hydronephrosis, double; stricture, right ureter, pelvic portion; obstruction at the uretero-pelvic junctiton, left.

Complaint: Pain in the left back and leg. Three years ago patient had a hysterectomy for carcinoma of the uterus. She was completely relieved of all trouble until nine months ago when there appeared suddenly sharp pains in the left back which extended down the left leg. This was very severe until five months ago since when it has become less troublesome. There has also been pain in the right side in intermittent attacks, beginning in the right lumbar region and extending down the course of the ureter. With these attacks she sometimes has chills and fever constantly. The only gastric symptoms have been a feeling of fullness after eating. She frequently has had cloudy urine and slight burning. Has lost several pounds in weight.

Examination: Patient is very sick looking. Abdomen, left side nothing important. On the right just below the costal margin and extending down to the brim of the pelvis there can be felt a round tumor, rather freely movable and tender. At one point anteriorly it gives the sensation of fluctuation. Dullness extends on the right side of chest from the third interspace down below this tumor. Vaginal examination reveals no signs of recurrence of carcinoma.

Urinary findings: Acid urine, great number of pus cells, some red cells, motile bacilli, albumin, few casts, no sugar.

Cystoscopic examination: Bladder capacity normal, bladder mucous membrane and ureteral meati normal. Catheter encountered obstruction in the right ureter three or four inches from the bladder which was passed on manipulation of catheter. No obstruction to passage of catheter on the left side. Separate pthalein estimation showed marked reduction of function on both sides.

X-ray examination: Pyelogram of kidneys showed large hydronephrosis on right side with dilated ureter. The left side, beginning hydronephrosis with abnormal insertion of ureter into the pelvis. Obstruction to both ureters.

Figure 4, Case 4. Left hydronephrosis and hydroureter due to stricture of ureter in broad ligament portion. Right hydronephrosis due to obstruction at uretero-pelvic junction. Note abnormal insertion of ureter into kidney pelvis. Thorium 15 per cent.

Case 5. Hospital No. 1930—J. R. C., age 39.

Diagnosis: Prolapsed kidney, right.

Complaint: Pain in the right side. For the past eight years has had attacks of gastric upsets characterized by pain in the epigastrium and right hypochondrium, belching and nausea. Two and a half years ago was under strict treatment for six months without result. Fifteen months ago patient

received multiple contusions while in a railroad wreck; confined to bed several days. There were no urinary disturbances. Since the injury patient has not been able to work on account of pain in the right half of abdomen and back. No pain in the testicle. Pain comes on when he is up and around with crises which are very definite. His epigastric and digestive disturbances always worse at these times. His digestive troubles have no relation to eating or diet.

Examination: Nothing abnormal except in the abdomen. There is tenderness in the

Figure 5, Case 5. Nephroptosis. Normal pelvis. Note relation of kidney pelvis to last two ribs and brim of pelvis. Thorium 15 per cent.

epigastrium in the right side and along the right costal border. There is resistance on deep pressure over McB. region. Fist percussion over the right kidney elicits tenderness.

Urine examination: No albumin, blood cells or pus cells.

Cystoscopic examination: Bladder capacity normal, bladder wall normal. Left ureteral meatus pin point in size, could not be catheterized when using the smallest catheter. Right ureter catheterized and urine obtained normal.

X-ray examination: Thorium was injected into the right ureter through catheter. In about three minutes patient had a typical attack of renal colic with pain in the right side. There was slight shock and exact reproduction of his belching and pain in the epigastrium. Pyelogram showed right kidney prolapsed with kinking of the ureter.

Comment: This patient's symptoms and the result of the physical examination were so suggestive of gallbladder disease that exploration was at one time seriously considered. The position of the kidney, however, and the reproduction of the attack of pain on over-distention of the renal pelvis clearly implicates the kidney. This kidney was suspended and when the patient reported for observation three months later was entirely free from trouble and had been since leaving the hospital.

413-415 *Professional Building.*

ROENTGEN DIAGNOSIS OF RENAL CALCULUS: REPORT OF ONE HUNDRED AND TWENTY-SEVEN EXAMINATIONS.*

L. W. Cunningham, M. D.,
Jacksonville, Fla.

The Roentgen examination of the urinary tract for the presence of calculi is at the present time and has been for quite a few years now on a firm basis.

I wish to report the results in one hundred and twenty-seven examinations and go over the routine preparation and the sources of error.

Since 1909 I have examined the above number of cases and the most of them in the last three years.

I will first discuss the preparation. I usually have the patient report at the office about 8:30 a. m. and the previous day at 2 p. m. take an ounce or two of Epsom salts

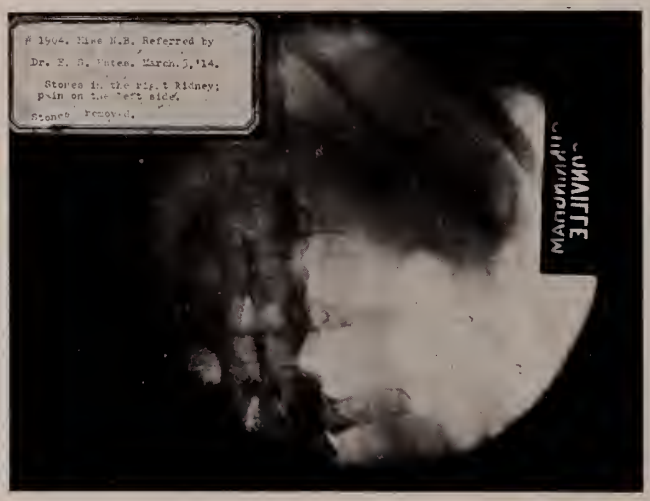
*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

or castor oil. This purge should produce watery stools indicating the complete emptying of the bowel and the amount of the cathartic can be regulated to the particular patient. They should eat a light mid-

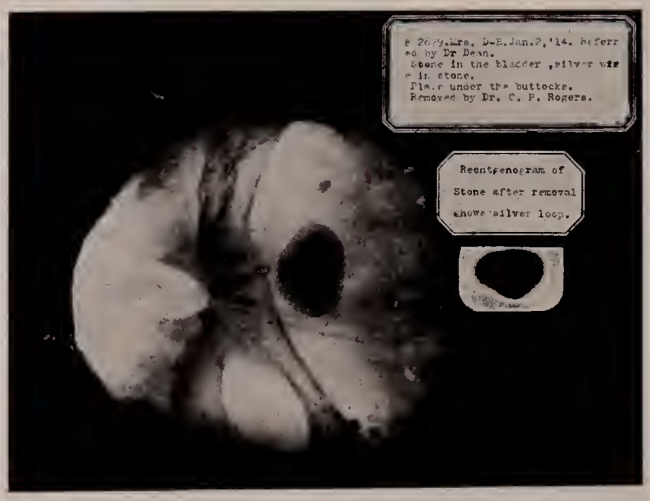
day meal the day before and after lunch take only liquids in limited quantities until bedtime. The morning of the examination

no food or drink should be taken except possibly a small cup of coffee. And this had better not be taken on account of the coffee stimulating peristalsis. Wherever it is possible an enema of plain water should be taken the morning of the examination to flush out any small masses of feces that may have remained in the lower folds of the colon. A stout patient should be starved and no liquids or very little allowed the day before the examination. All medicines as bismuth or any substance that would throw a shadow should be stopped temporarily. This preparation is absolutely necessary as it eliminates the loss of detail due to food in the intestine and also small hardened masses of feces throw shadows that would be confusing. And if the patient had not

been prepared, it would then have to be done and the patient re-examined. The removal of the fluid in the abdomen aids also in getting more contrast in the negatives.



The quality of the negative is very important and should show the soft tissue detail of the psoas muscle clearly. No certain number of plates are to be made, but a sufficient number to obtain the necessary detail in every part of the urinary tract. If we get good soft tissue detail, then there are practically no calculi that we should miss showing. Thurstan Holland, of Liverpool, in an experience covering the time since the examination of the urinary tract had any value, has found that with the exception of the bladder there are no pure uric acid stones found. The examination of the calculi show them all to be of mixed composition. These uric acid stones which occur in the bladder can also be shown in good soft tissue negatives.



I wish to call the attention of the members of the society to one likely error and that is the partial examination of the tract.

This cannot be too strongly condemned as the pain is sometimees referred across to the opposite side. Or the pain may be in the kidney region and the stone low down in the ureter or almost any portion of the ureter. Again there may be calculi in both sides of the urinary tract. So that the examination must cover the entire tract to be of any value, otherwise the patient only gets the removal of part of this trouble and goes home and has renal colic with pain on the opposite side.

The sources of error are few, if plenty of evidence is gotten, and if any uncertainty is present, remove it by another examination. Stereoscopic plates will aid much in localizing shadows. The use of collargol or thorium nitrate to outline the ureter will aid in proving shadows in the urinary tract or not, and stereoscopic plates here are better than flat plates. The shadow may be directly over the opaque cather or the opaque solution used to outline the ureter, and the flat plate would be very deceptive and indicate the shadow in the ureter when it is not. Calcified glands and veins are commonly seen along the pelvic portion of the ureter and are usually very different from calculi in their appearance. The important point is where there is uncertainty, remove it by another examination.

In this series of cases forty-three of the one hundred and twenty-seven have shown positive findings. Twenty-one of these showing positive findings have been operated upon and the stones removed in nineteen cases. One failure I do not attribute to the X-ray, as I suggested to the surgeon that we outline the ureter and prove the position of the shadow, but he did not think it necessary. No calculus was found, and the shadow was most likely a calcified vein. The other case in which the stone was not found was a very small one and may have been overlooked, but was not found. One case reported as negative and operated upon and no stone found, later on passed a stone that was most likely in the ureter at the pelvic brim, judging from its shape when I saw it. Many of these patients have passed the stones and some of them a long time after the examination.

The location of the stone is of interest and we have found them located as follows: Right kidney, twenty; left kidney, four; right ureter upper portion, three; left ureter upper portion, two; the right pelvic ureter, five; the left pelvic ureter, seven, and one in the bladder. There seems to be a greater tendency for the formation of calculi in the right kidney.

No patient should be operated upon for renal calculus without an X-ray examination. The percentage of error is very small and it gives evidence that cannot be obtained any other way. Of course, cystoscopy, pyelography and all other means should be used to aid in obtaining the most accurate diagnosis.

To illustrate some of these cases I have a number of prints which you may look at. The diagnosis should always be made from the negative and not the print. Lantern slides are not uniformly successful as illustrations, and I have chosen the prints to show the type of shadows which are calculi that we find.

DIAGNOSIS AND TREATMENT OF PELLAGRA.*

M. L. Tisdale, M. D.,
Tampa, Fla.

The diagnosis of pellagra is not always easy. It is not infrequently difficult, and in the absence of laboratory or other equipment by which it may be definitely determined, there are frequent occasions for confusion.

Yet in spite of its striking characteristics, instances are not infrequent in parts of the United States today where competent diag-

*Read by title before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

nosticians fail to recognize the disease even in pronounced cases.

The early diagnosis in many cases is frequently difficult, and in cases which do not present skin lesions, the diagnosis must often be tentative.

There have been numerous classifications and descriptions given of the disease, every author having his own classification. But I think the classification given by Lavender is the more simple and comes nearer conforming to the majority of cases. That is the prodromal, first, second and third stages.

However, we must remember that there is no sharp line of demarcation between the various stages; that nothing is implied as to the length of time the disease may have existed, and that the various stages represent rather differences in degrees than in kind.

The disease is essentially chronic, but is not always uniform in the rapidity of its development and evolution.

To my mind the first or prodromal stage is the most important from the standpoint of both diagnosis and treatment. This stage is indefinite, both as to length of time and development. I have had patients under observation from six months to a year before the outbreak of the typical triad symptoms. Here is where we should use our best means of diagnosis, and exclude all other possibilities before we reveal the sad news to our patient that he or she has pellagra.

It has been my experience that quite a number of people outside of institutions have a morbid fear of the disease, even though they themselves suspect it.

Careful and complete history, to my mind, is indispensable in making a diagnosis during this stage of pellagra. It is difficult, of course, among the less intelligent classes, and particularly the negro, to obtain correct histories. But, by exercising a little patience, we can obtain facts sufficient to give us valuable data.

We invariably obtain in these cases a neurotic history, of which neurasthenia is the prevailing symptom. The fleeting pains, parasthesias and the various nervous digestive disorders have led them to resort to all patent medicine advertisements and nostrums and consult all advertising quacks within reach. Unfortunately, a few of the more intelligent come under our observation during this stage, and the majority we see at the beginning or after the onset of pronounced symptoms.

The principle diagnostic points to be observed from the histories of these cases during this stage are neurotic family history, diseases of childhood, or during adult life, the long and continued use of drugs that tend to diminish the vital resistance and impair metabolism, gastro-intestinal disturbances, mild stomatitis or ptyalism, burning in mouth or stomach and constipation. Loss of appetite, progressive weakness, especially of lower extremities, feelings of general malaise, autumn and spring exacerbations with periods of depression, unhygienic surroundings and deficient as well as improperly prepared foods.

As stated above, there is no well defined line of demarcation between the first and second stages. The first stage usually begins with gastro-intestinal disturbances, sensations of heat in mouth and stomach, altered taste, ptyalism, with characteristic offensive odor and complete loss of appetite, tongue coated centrally, red and smooth at tip and edges. The papillæ are frequently prominent and injected, and in the negro occasionally blackish, giving the organ a stippled appearance. At times the tongue is smooth and red, denuded of its superficial epithelial coat known as the "Bald Tongues." Appearances vary, but the tongue in pellagra is to some extent characteristic.

Examination of the mouth shows general redness of mucous membrane, with vesiculation or even superficial ulceration. There is deep reddish blue discoloration of

gums resembling somewhat mercurial poisoning.

Dyspeptic symptoms, with abdominal pain and flatulency are noted. Occasional vomiting may occur, especially in alcoholics. Diarrhea is frequent, at times constipation, and the diarrhea as well as vomiting may be of spasmodic type.

Muscular weakness, especially of the lower extremities, comes on early.

The temperature during this stage in uncomplicated cases is usually normal. There may be slight evening rise due to toxemia. If there is a marked rise of temperature, other complications should be sought for.

Vertigo is often present, and gives the patient much discomfort. Insomnia occurs and is difficult to control. Neuralgias are not infrequent, and especial stress is laid by some on spinal neuralgias, with cramp-like pains extending to the extremities.

The knee jerks at this stage are usually exaggerated.

Intelligence, even at this early period, is often affected. There is mild mental weakness with depression. Along with these symptoms the characteristic erythema appears, selecting nearly always the exposed parts of the body, and always symmetrical in its distribution. Its appearance is usually accompanied by a sensation of heat or swelling with slight itching, but the itching is never marked.

It makes its appearance usually in the spring time, less frequently in early fall and summer. It selects at first especially the extensor surfaces, backs of hands and forearms, back of neck, upper chest and dorsal surfaces of the feet.

Later the flexor surfaces may become involved, but the plantar surfaces frequently escape. In the more aggravated cases covered portions are involved, such as the genitals, the vulva in the female and scrotum and the perineal region in the male.

The second stage is characterized by an exaggeration or aggravation of symptoms of first stage, with appearance of new and marked evidences of involvement of the nervous system.

Among the motor disturbances are considerable muscular weakness, especially of the lower extremities, and not infrequently partial paralyses are observed. There also occurs tremor of tongue, head and arms, as well as cramp-like seizures and convulsive movements.

I had under observation six patients in the insane hospital of Alabama who died with convulsions identical with those of general paresis.

Among the sensory disturbances are paresthesias, sensation of burning of the extremities which are described at this time as intolerable.

There are sensations of formication, hot and cold flushes, burning of the eyes, suffocation, heaviness in the groin and uterus and burning sensation of vagina and rectum.

The third stage is usually the terminal stage, and is characterized chiefly by the anemia. The above symptoms are still present and aggravated. There is increasing marasmus with marked anemia.

The blood shows the changes common to secondary anemia. Leucopenia is not infrequent.

It is conceded by a majority of laboratories that there is a relative increase in the large mononuclear count. In the majority of cases acidity is diminished.

Myers and Fine, of the P. G. Hospital, N. Y., made quite extensive and thorough analyses of the stomach contents, urine and feces of pellagrins. They report an acidity of stomach in a majority of cases, and generally associated with an entire absence of pepsin or pepsin is present only in minute quantities.

The examination of urine showed marked increase of indican, particularly in the cases of gastric insufficiency. The principle find-

ings in the feces was a decided increase in the amount of indol and skatol, giving it the characteristic aromatic odor.

The treatment of pellagra comes under two heads: Prevention and the management of the developed disease.

Under the first head quite a volume could be written, but the most important points will be referred to here. First, to be emphasized is education of the people along lines of hygiene and sanitation. If more attention and support were given this field, and less time and money spent with the experimentation and perfunctory administration of drugs, we would soon realize far more gratifying results, and then and not until then will we succeed in diminishing the virulence of, or probably stamping out, pellagra. But similar results would be accomplished with numerous other diseases peculiarly adapted to the human body.

In the light of recent investigations and experiments conducted by the government, the idea is becoming more dominant that pellagra, like beri beri, is a deficiency disease. Of course these experiments have not been sufficiently extensive to warrant definite conclusions, but have been sufficient to stimulate deeper interest and more thorough investigation by the physicians at large practicing in pellagrous districts, and to more thoroughly impress upon the people the necessity of a better quality, greater diversity and better prepared foods.

If pellagra is a disease or symptom produced by a lack or deficiency of certain essential proteins, termed vitamins, and this deficiency of protein is due to overheating or degeneration during the process of milling, known as overmilling, then we should discourage the use of commercial meal, and go back to the whole meal where this process is not used.

On the other hand where we have the disease in cases that never use corn meal in any form, then we will have to supply the protein from some other source.

The treatment of pellagra after the onset of pronounced symptoms is varied, and not until the cause is discovered can we expect to follow any definite line of treatment; hence, the treatment must be largely a symptomatic, thorough examination for and treatment of underlying troubles that tend to lower the bodily resistance.

Isolation in well shaded rooms or tents of ample size and well ventilated is very important in controlling the extent and severity of the lesions of the exposed surfaces.

It is a fact conceded by all that the actinic rays of the sun exaggerate these lesions.

Our experience with the colored pellagrins at the insane hospital of Alabama showed that those kept in tents improved faster and gave less trouble, were easier kept clean and disinfected than those confined to small rooms or wards.

Proper diet is the one important step in the treatment of these cases. Carbohydrates should be eliminated, and carefully selected proteids given, as much as can be assimilated.

If there is excessive nausea and vomiting with diarrhea, the diet should be restricted to liquids, such as milk, meat broths and fresh fruit juices. After the nausea and diarrhea has subsided, the solid proteids, such as lean meat, fruits and vegetables can be given freely. If we can control the nausea, vomiting and diarrhea, there is some assurance of tiding the patient over the attack, but if not, they soon succumb to exhaustion, caused by profound toxemia. .

The constant administration of salt solution, both by rectum and underneath the skin, is of great value in the more toxic conditions. This seems to dilute the toxins as well as to hasten their elimination.

Hydrotherapeutic measures, such as cold and warm baths, simple or medicated, when used with the proper discretion and if it can be done with little exertion to the patient, are beneficial.

A change to cooler latitudes should be advised in the chronic recurring cases where circumstances will permit.

As to the medicinal treatment, there are but few drugs of value during the acute fulminating stage, and I believe here is where our intestinal antiseptics do most good. Among these I find calomel, beta-naphthol and salt of great value. My experience with the arsenical preparations, after the acute skin lesions have subsided, has been gratifying. But to give arsenic during this stage seems to aggravate the trouble.

Among the preparations I have used most successfully are neo-salvarsan in small doses in the vein or muscles, and cacodylate of soda hypodermically.

Dr. Yarbrough, of Alabama, has laid much stress on the administration of dilute nitric acid in a glass of water as nearly on an empty stomach as possible, about one hour before meals. This he claims to readily reduce the acidity of the blood, urine and feces, at the same time controlling salivation and diarrhea in from three to five days.

For the skin eruptions before the surfaces have become raw, an ointment consisting of beta naphthol, balsam of Peru or oxide of zinc acts well. After the surfaces become raw, an ointment of tar, salicylic acid or zinc oxide is better.

I wish to say in conclusion that we will all admit that pellagra is growing less virulent every year, and is under better control, and we will all agree that it is not possible for the general practitioner to give the time and attention necessary for the treatment of these patients, with the means and accommodations of the average families.

Therefore, I think that every case of pellagra should be placed in a hospital and treated by physicians and nurses stationed there for that purpose. Every State in the South should support a hospital for the treatment of pellagra, then the mortality would be far less, and we would have the disease under control in the course of a few years.

GUNSHOT WOUND OF THE ABDOMEN WITH MULTIPLE PERFORATIONS OF THE SMALL INTESTINE AND MESENTERY.

William R. Warren, M. D.,
and
Harry C. Galey, M. D.,
Key West, Fla.

E. V., a Cuban laborer, 29 years of age, was admitted to the Mercedes Hospital June 10, 1916, with the history of having been shot in the abdomen.

Upon examination, an hour later, the patient was found to be shocked but not profoundly so. Inspection revealed a single wound of the abdomen, situated an inch to the right and below the umbilicus, with a small portion of omentum protruding through the wound.

Four and a half hours after the injury, the patient having been prepared for operation, chloroform anæsthesia was begun.

An incision was made about six inches long through the linea alba, and upon opening the peritoneum, a large amount of extravasated blood was found. The incision was immediately extended from ensiform to pubis, and beginning at the ileo-cecal junction, search was made for wounded viscera.

The entire intestinal tract was examined, each loop of intestine inspected and returned. One complete perforation of the jejunum and four perforations of the ileum were found. Four perforations of the mesentery were noted.

Active bleeding from the torn mesenteric vessels required immediate attention, and as there were no evidences of the intestinal contents escaping into the peritoneal cavity, the mesentery was dealt with first, the torn edges approximated and sutured with fine catgut, on both surfaces, without ligating the vessels.

Because of the multiple tears, it was

thought best not to ligate the vessels, and avoid the probability of subsequent gangrene of the gut. Resection of the area supplied by the wounded mesenteric vessels, means exposure of the patient to the shock and danger of a prolonged operation. The subsequent history of the case substantiates the opinion that pressure between the two layers will control hemorrhage, and absorption of a considerable amount of extravasated blood, that has found its way between the layers, can occur without untoward symptoms.

The perforations of the intestine were closed with single, running sutures of fine silk, including the serous and muscular coats.

While the abdominal cavity was being cleared of extravasated blood by careful sponging, a bullet from a thirty-eight calibre pistol was found free in the right iliac fossa, and two split-off portions of the bullet were removed from behind the stomach and were also free in the abdominal cavity.

The post-operative history of the case was uneventful. Neither stimulation nor morphine were given, and they were not indicated. The patient was remarkably free from nausea, vomiting and abdominal distention. Hunger was the patient's only complaint.

A soft-boiled egg was allowed on the fourth day, and liberal diet given at the end of a week. The patient left the hospital in two weeks.

Examination of the patient, recently, showed a strong abdominal wall with no tendency to hernia.

Comment.—Gunshot wounds of small calibre, involving the intestine and mesentery can be repaired in a much shorter time by single, continuous sero-muscular sutures of the intestine and by continuous suture of the rent margins of the mesenteric layers.

Resection of the intestine supplied by the injured vessels may be avoided in selected cases, by suture of the rents in the mesentery without ligation of the bleeding vessels.

The above statements do not apply to extensive lacerations of the mesentery, nor when the large mesenteric vessels are involved.

THE SIGNIFICANCE OF EYE SYMPTOMS IN RELATION TO SYSTEMIC DISEASES.*

Samuel F. Smith, M. D.,
Lakeland, Fla.

The experiences of some of our most eminent ophthalmologists have been a great aid to me in the preparation of this paper by enabling me to more clearly express the ideas and facts relative to this most important subject, and I desire to give due acknowledgment accordingly.

It is needless to say that it is the great desire of the medical profession to reduce the practice of medicine to as nearly an exact science as it is possible in its nature so to be. The near approach to this most desired condition of modern medicine is being rapidly accomplished with the aid of the microscope, the results of physiologic research, and the aid to accurate and positive diagnosis of the laboratory, used in conjunction with the valuable and indispensable experience of the clinics and daily work. Disease is an exact condition as far as each individual is concerned. There is a definite cause, and consequent exact results. The nearer you can approach to apprehending the knowledge of these conditions the more nearly you succeed in making of the practice of medicine an exact science, and at the same time prophylaxis as well as cure are brought the more securely within our reach.

As our knowledge increases along these lines, we hasten to include in our methods of practice the results of the information thus gained.

Along these lines ophthalmology is being

---

*Read by title before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

recognized as an important factor as an aid to complete diagnosis in systemic diseases. This knowledge has been gained by the earnest workers in this specialty, who by the results of the experience from their clinics, have brought to the attention of the medical world the importance of ophthalmology as an aid to the diagnosis and treatment of general diseases and surgery. Especially is it of inestimable value as an aid to diagnosis in certain organic lesions of the digestive tract, kidneys, circulatory and nervous systems. It has long been recognized that there exists a close relationship between many ocular and systemic diseases. But recent years have brought a much more perfect understanding of the manner in which certain systemic lesions produce changes in some portion of the eye. Many of the ocular diseases that we are daily called upon to treat are but the local results of some systemic disturbance per chance in some distant portion of the anatomy.

We should not, therefore, in any case fall into the error of approaching the eye as an isolated organ of the body, as its sensitive mechanism is not only frequently affected by systemic lesions, but in turn is frequently the cause of considerable systemic disturbance, of which eyestrain is a vivid example.

In every instance of serious ocular disease a thorough search of the entire body should, if necessary, be made to determine the underlying cause. In some cases the most thorough investigation fails to reveal this, but careful search will clear the etiology of many otherwise "idiopathic" cases. After careful examination of the nose, mouth, teeth, tonsils, throat and accessory sinuses, a careful analysis of the urine and blood together with the condition of the liver, stomach and intestines should, if necessary, be determined. In many cases the cause is not readily apparent, but by proper diagnostic procedures and careful observation of patient, we are enabled to obtain the clue that makes it possible for us to treat the lesion scientifically and with the desired results.

We should have in mind in every instance the possibility of specific tubercular, liver and intestinal lesions and rheumatism as a cause of the eye disease. In some cases the systemic disease may be recognized by the local ocular manifestation before diagnosed by any other method, chronic nephritis being a prominent instance. As some of the earlier lesions of the fundus of chronic Bright's disease may precede the presence of albumen and casts in the urine.

Weill states that of 194 patients with Bright's disease examined ophthalmoscopically showed retinitis, and in 21 of these cases the retinal condition first revealed the nephritis.

Bulson expresses the point I desire to emphasize by saying that if these slight but significant retinal alterations which precede albuminuric retinitis are discovered, the progress of the disease may be arrested or at least delayed. He further says that the fact that the lesions are due to what is known to be a progressive disease, and that they occasionally do disappear under improved conditions, shows the importance of detecting the lesions in their incipiency, recognizing their significance, and placing the patient under appropriate care. Thus is shown the importance of the eye as an aid to the earlier diagnosis of this serious disease, and demonstrates the opportunity of the observing ophthalmologist to view many of the earliest evidences of general or local diseases.

Iritis is practically in every instance the result of some toxin from other sources. Many patients presenting with iritis have no history or evidence of disease other than the local manifestation of iritis, but I feel safe in making the assertion that somewhere about the body in every case there is a focus of infection which liberated in

the system, finds its way to the delicate tissues of the eye, and there find lodgment and manifests as an iritis, uveitis, neuritis or retinitis.

While there is nothing particularly new or original regarding this paper, I felt it might be of interest to this society to have presented a few facts along the lines mentioned, as these cases are presenting frequently, and as they are cases wherein the ophthalmologist and the physician should work together, and each in turn be of great aid to the other in helping to locate the causes of the ocular disease, and many times also of locating the other and real disease, which, if not eradicated, will sooner or later cause a remanifestation of the ocular disease. In closing I would suggest that in referring your patient to the ophthalmologist, that a complete history of the case accompany them regarding the patient's general condition, and all that might have any bearing upon the trouble for which they are referred.

EYESTRAIN: ITS DIAGNOSIS AND TREATMENT.*

Joseph W. Taylor, M. D.,
Tampa, Fla.

Asthenopia (eyestrain) comes from the two Greek words meaning weak sight.

There are four forms ordinarily recognized: Accommodative, due to errors of refraction and to strain of the ciliary muscles. Muscular, due to an abnormal strain of the extrensic muscles of the eyes. Nervous, due to fault in the nervous system. Reflex, due to a marked condition in the organism outside of the eye and nervous system.

This paper shall only deal with the first form, as it is the most common and must be ruled out before we make a diagnosis of the other forms.

Causes.—Congenital, most every child is born hyperopic (farsighted), due to a small, short eye, with flat surfaces. As the child grows and uses his eyes, they gradually elongate and the surfaces become more convex until at a certain time we may get an emmetropic or a normal dioptric apparatus; or it may elongate too much, then we get myopia or nearsight; this is the case among those who use their eyes a great deal for near-work, said to be a sign of civilization, as all savages and animals are farsighted. Acquired, as aphakia, any reduction in the convexity of the surfaces as disease, or metabolic changes. Third, any increase in the media as a firm vitreous.

Symptoms.—It is said that 80% of all frontal headaches are due to eyestrain. Therefore, headache is the cardinal symptom, and if neglected and permitted to grow into a habit, it so saps the vitality of the patient that it soon gives rise to other symptoms. Many years ago Weir Mitchell pointed out that eyestrain may be revealed solely by occipital or frontal headaches, there being no pain in the eye and no sense of fatigue whatever locally but that if such strain be allowed to continue for a long time it may cause insomnia, vertigo, nausea and general ill-health. The pain may be frontal, ranging all over the forehead or bitemporal, brow, or it may be worse in the occipital or vertical regions, or limited to a small area of the scalp. The pain may be worse after using the eyes, toward the end of the day's work, or when using artificial light. A patient may complain that his head aches when he first gets up in the morning, especially if he has been using his eyes a great deal the night before. While eyestrain is often the only cause of these headaches, general ill-health may be a contributing factor. Other symptoms are pain, fatigue, burning and smarting of the eyes, blurring of the vision, feeling of sand in the eyes, lacrymation, photophobia, fibulary tremor of the orbicularis, twitching,

---

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

migraine, digestive disturbances, nervousness, general restlessness, insomnia and vertigo.

Percy Webster says: "Eyestrain may be the only cause of attacks of vomiting and vertigo. All symptoms in some cases have been relieved by the correction of so trifling an error as .5 or .25 D hypermetropia or astigmatism."

As a result of eyestrain the coats of the eye become inflamed. Conjunctivitis, blepharitis, styes, chalazia and conjestion of the retina and choroid are frequent complications.

Diagnosis.—Vision may be normal or better. Note facies, if brow frown, narrow forehead, narrow inter-pupillary distance, small eye, small pupil. If child, history of hyperopic disposition, such as restlessness, poor student, lover of outdoor instead of near-work inside. And for this reason alone a child often appears stupid in school.

If a patient comes to you with headache, find out what part of the head aches and at what time of the day it is worse, if using the eyes causes it to come on or increases the pain. Does it pass away after resting the eyes? Is it constant or periodic? Does the head ache after attending a public amusement, when shopping or riding on train? If a female, is the headache only monthly?

The most common headache that is liable to be confused with asthenopia is the brow ache, due to malaria, but this should be differentiated by a history of malarial attacks, chills and fever, periodic in character, clearing up under anti-malarial treatment.

See if there is any bulbar and lid conjestion, blepharitis, chalazion, conjunctivitis or styes.

The opthalmoscope, if one is an expert in using it, will measure within .75 to 1. D of the total hpyermetropia. The opthalmometer measures accurately the corneal curvature.

Finally, to be absolutely sure your patient has eyestrain, paralyze the accommodation with homatropin and do a skiascopy. It is when the eye is under the influence of a cycloplegic, not simply a mydriatic, that skiascopy performs its perfect work. Then the refraction can be measured with absolute accuracy by means of the skiascope down to .12 D of the total hypermetropia, myopia and astigmatism, while the axis of the correcting cylindrical lens can be determined positively.

Treatment.—If proper, the results are very satisfactory.

In the office we follow a systematic routine. First, we take their history, going into the family, past, present and general health, emphasizing the chief complaint. Second, take a general look at the eyes by daylight, examining the lids, conjunctiva, cornea, anterior chamber, its depth, etc. We use the loop with a condensed light, looking for opacities in the cornea or deposits on Descemet's membrane, or on the anterior surface of the lens capsule. Third, take vision at twenty feet and punctum proximum (near-point) and test the muscles for any abnormality. Fourth, examine eyes with the opthalmoscope, noting the character of the media—if clear, cloudy or floating opacities, looking at the retina with the eye moved in nine extreme positions, noting the character of the vessels and the retina, then going to the macular region, seeing if it is normal, then to the disk, noting if round or extremely oval, if normal, elevated or cupped and if cupping is physiological or pathological. Lastly, measuring the approximate hypermetropia or myopia. We then use the opthalmometer to get the correct corneal astigmatism with probable axis. Having done this, we sit the patient by the trial case, placing before the eye the opthalmometric findings, adding as much plus as possible in hypermetropia, or as little minus in myopia to obtain best vision.

The patient is then seated in a dark room and the nurse instills 2% homatropin every

ten minutes for six times. After waiting for twenty minutes from the time of the last drop, the patient is ready for the skiascopy and by this method we find out within .12 D of the total error. The skiascopy findings are placed before the patient's eyes and if the skiascopy has been properly done, he should get 20/200 vision. By adding minus 1., his vision should come down to 20/20 or better. The muscles are again tested with the full correction on. If the case is very difficult, we do a post-cycloplegic examination. If the glasses are for constant use or just for near-work depends upon the patient's chief symptoms, general health, occupation, age and character of error.

E. C. Gault, in his paper on "Opthalmology and General Medicine," says: "I am disposed to think that in every case of persistent headache of long duration, especially if it be associated with or increased by near-work, the determination of the refraction of the eyes after the accommodation has been paralyzed by the homatropin should be at once made."

M. G. Beals, in his paper on "Refraction of Mentally Defective Children," shows the result of proper treatment in these cases. He took children who were so backward in school that they were classed with the ungraded, regardless of age. When their eyes were examined and the proper glasses ordered, they began to learn rapidly and soon were in the grades.

Summary.

That headache is due, in a great majority of cases, to eyestrain, and that it is relieved without exception, if due to eyestrain (refractive type), by the proper glasses.

That the eyes should be under a cycloplegic in order to do perfect work.

That all cases of backward children or mentally deficient should have their eyes examined by an oculist.

That a great number of the cases of nervousness and general ill-health may be traced directly to eyestrain.

602 *Citizens Bank Building.*

SAGGING ABDOMINAL VISCERA: THEIR NON-SURGICAL TREATMENT.

George M. Niles, M. D.,
Atlanta, Ga.

Before and since the advent of the Roentgen ray in diagnosis, it has been realized by many thoughtful observers that much comfort could be given, and in some cases absolute relief by the employment of proper supportive measures in gastroptosis, enteroptosis, or relaxed and incompetent abdominal walls.

As to the latter condition, many do not realize the malign influence exercised upon the orderly functions of the stomach and intestines by flabby and incompetent abdominal parietes.

There are two classes of individuals in whom this condition is most frequently found: Middle-aged or elderly women, who have borne several children in close succession, and whose domestic duties have so pressed them that they have never permitted the abdominal walls sufficient quiet and rest to bring restored tone; the other class includes elderly men, of previously strong physique and liberal deposition of fat in the abdominal cavity and parietes, who have lapsed into feeble health from any cause. Both of these classes complain of a sense of weight and "dragging-down" while they are in a standing position, and suffer from many indefinite ailments which may to some extent be traced to the ptosed viscera and the lack of support given by the abdominal walls.

I have under observation at present two cases, each representing a class. One a woman of forty-eight, the mother of seven children. This woman, whose circumstances in life have been trying, has a relaxed and pendulous abdomen, which, without a sup-

port, renders her almost helpless. With a well-fitting abdominal supporter she can be up and about, attending to her duties with comparative comfort. The other, a man of sixty-two years, weighing 235 pounds, with a rather weak and degenerated heart, finds that without the supporter for his pendulous and bulky abdomen, he could not be up at all with ease.

The present-day straight-front corset is a marked improvement over the wasp-like corsets formerly worn, and, when properly fitted, they exert a really helpful supportive influence upon the abdominal walls and their contained organs.

Another condition to which undue prominence has been given is the "floating kidney." The wave of surgical zeal, during which every palpable kidney was "tacked up," has happily passed, and we now understand that the majority of these loose kidneys can be sufficiently steadied by outside supports to afford the patient relief from most of the symptoms caused thereby.

In persistent and uncontrollable vomiting, either in pertussis, or pregnant women, or from any other cause, external abdominal support is often grateful, and efficaceous in controlling the paroxysms.

Some years ago Kilmer devised a belt for the relief of pertussis, but his belt has found a larger field. The original consisted of a stockinet band applied so it would extend from just above the pubes to well above the epigastrium. It is prevented from slipping down by two bands over the shoulders.

Recently he has reported a simplified belt made of linen with strips of elastic webbing inserted on either side, and laced up the back like a corset. The belts should measure 2 or 3 inches less than the circumference at the umbilicus, though the degree of constriction should be gauged to each individual case, and not be made burdensome. This belt is valuable in the vomiting of seasickness and nervous vomiting, and is prized by some as an abdominal supporter also. The cost is slight, and I have in a number of instances had them made at home by some female member of the family.

In nearly every city can be found makers of abdominal belts, who can so fit and adjust them that material support is afforded. In addition to the support, an amount of counter-pressure is exerted, which prevents to some extent the evil effects of gravity in producing a lowered blood pressure when the patient stands. In order that the belt may serve its purpose, the physician should note whether or not it is well fitting and really supports. Most of the belts that are kept in stock by the instrument and wholesale drug houses are simply broad elastic belts, surrounding the hips and pressing backward upon the abdominal walls without any traction upward.

Some well-fitting straight-front corsets are fitted with an inner belt of elastic webbing, which greatly augments their supportive efficiency. In these, however, as in all devices for holding up prolapsed organs and incompetent walls, the principle of upward and not horizontal pressure must be kept in mind.

Pads of various kinds, shapes and sizes are used as accessories to these various belts and corsets, many of which are a detriment instead of an aid. Many are devised with the idea of holding in position a floating kidney, and have an extra pad fixed to some part of the belt, or slipped loosely inside of it, depending on the tight constriction of the encircling band to hold it in place.

Most of these are worse than useless, acting in some cases like the ill-fitting truss that not only fails to confine the hernia, but keeps it forced outside of canal. I have never yet seen a kidney really steadied or kept in place by one of these pads, nor have I seen a ptosed stomach raised one iota by their employment.

Of some use to men or women with pendulous or incompetent abdominal parietes, and who cannot afford to have properly-

fitted bandages or corsets adjusted, is a large-sized pad, which fully and adequately covers the whole lower abdomen, and can be worn under a belt or a straight-front corset. Bassler has used with satisfaction in such patients a pad made of thin but sufficiently stiff leather to give it form, and on which the side next to the abdomen is a cushion of curled horsehair covered with kid.

I have modified this by using, instead of the horsehair, cotton batting and, instead of the kid, several thicknesses of cotton flannel.

The lower edge of this pad fits into and just above the arch made by the anterior superior spines of the ilia, Poupart's ligament and the umbilicus and the lateral edges well over the sides of the abdomen. The cushion is thicker at its lower edge than above; it is soft and pliable, and readily adjusts itself to the body and outside support. It is quite comfortable to wear, though rather warm for summer use. It can be fastened securely inside of the belt, or one-half of it can be attached to one side of the corset. Usually with ordinary corsets or with a tight-fitting belt it remains well in place.

When the circumstances of a female patient permit intelligent fitting of a corset, the following facts should be borne in mind: It should be long enough to come well down over the pubic bone and outward curve of the hips, should not extend too high on the thorax, should be loose enough above the level of the unbilicus to allow full play to lungs, diaphragm and other organs that move with respiration, and should give to the wearer an actual sense of comfort, support and restfulness. Any corset that exerts a constriction at or near the epigastric region interferes with the normal change in size and position of the stomach when it is distended with food, and by this baneful pressure causes either a crowding or displacement of other adjacent organs. Pressure at the sides rather low down on the thorax may be allowed with safety, but such narrowing should be allowed for by a corresponding increase in the anterior dimensions of the corset.

Women present infinite variations in the contour and size of their bodies, and corsets should be made to suit with exactness each individual figure.

Corsets, belts and abdominal supporters and other devices along these lines have their proper and useful place in persons of generous proportions, or those with full or protruding abdomens. There is another class, however, in which all these devices are utterly without benefit, and in whom the best-fitted corset or abdominal supporter would afford no good service in lifting prolapsed organs.

Take the slender unmarried women, or the slim and medium-built individuals, with abdomens absolutely flat, and hips almost on a line with the smallest part of the waist, or those emaciated individuals, who have perhaps been on a rigorous diet for many months, and who present a depression where a rounded contour should be. These are not fit subjects for abdominal supporters, though many of them suffer from the most pronounced forms of gastroptosis and enteroptosis, and few there are in whom it has been found that properly adjusted bandages or adhesive plaster do not exert a tangible and beneficent effect.

To the late Dr. Achilles Rose, of New York, must we accord credit for the first useful and scientific method of applying adhesive plaster for supportive purposes. Kemp first suggested zinc oxid plaster on moleskin, and made some modifications in the method of applying the "Rose belt," which added to its efficiency. After applying many of these belts, I have found that several small reinforcing pieces of the plaster still further enhance their usefulness, and the completed method, as now employed, will be presently described.

As in practically all appliances of worth there are certain disadvantages, this is no

exception, and they will be mentioned first. The adhesive plaster, having to remain constantly in place, prevents thorough bathing, which in itself is a deprivation to many people. In hot weather, and with some in any weather, there comes on the surface of the skin covered by the bandage an almost intolerable itching, which, in nervous individuals, is a serious matter. Some skins are so sensitive that the adhesion and tension of the bandage brings about quite a severe dermatitis, and occasionally there occurs a localized infection in the hair follicles, which may produce a number of small but painful furuncles. Lastly, I have encountered a few neurotic invalids, or "pseudo-invalids," who, claiming that the ever-present constriction made them excessively nervous, complained continually until it was removed.

The advantages of this appliance lie in the fact that it can be accurately adjusted to the most slender person, that it holds its position constantly, and that steady upward traction can be maintained with a minimum of discomfort.

It should be applied as follows: Zinc oxid adhesive plaster on moleskin 6 or 7 inches wide, the latter being for taller patients, should be employed. A measurement may be taken of the waist, and the plaster cut 1 or 2 inches longer than this measurement. The plaster is laid in its central part over the lower abdomen, and two curved lines are drawn, these lines clearing in a curved line the crests of the ilia. This point should not be overlooked, lest the plaster impinge on these bony prominences, causing considerable irritation thereby. The lateral pieces are narrowed slightly, and are used to reinforce the main piece of the plaster.

The patient's abdomen is cleaned, first with water and soap, then with alcohol or chloroform, as otherwise the oleaginous secretions present on the surface would lessen the adhesive power of the covering. The upper part of the pubes is shaved (it is not necessary to shave the whole of the pubes), and, if there is any hair on the abdomen, that should be shaved also.

In application of the bandage, I endeavor to have the hips so elevated that the body and limbs assume almost, if not quite, an angle of 45 degrees. This is accomplished by placing under the buttocks an ordinary porcelain wash-basin or other vessel, upside down, with a thin towel between the naked skin and the cold surface of the basin. The patient is instructed to relax the abdominal muscles, and the operator may with gentle downward manipulation, aided by gravitation, press the formerly prolapsed organs out of the lower abdomen into the upper. The bandage is then applied, and by gentle but firm stroking is closely adapted to the surface of the skin all around the body, care being taken to avoid wrinkles. The reinforcing pieces are then put on, letting them begin down near the center of the most dependent part of the abdomen, and extending around the waist line in an upward direction. As these sharp ends do not generally quite meet in the back, it is well to let a short piece of the plaster extend well over each end, thus binding them together, and greatly adding to the efficiency of the whole bandage. Also in front, where the several parts of the bandage superimpose each other, the addition of a few small pieces will prevent later slipping, keeping the whole bandage intact for a much longer period.

To avoid irritation of the umbilicus, some advise that a notch be cut out where the bandage covers that part of the anatomy. This I have seldom found necessary.

The bandage should remain on as long as it is tight and efficient, and by the occasional use of small reinforcing pieces, where it is inclined to give way or become loosened, it will serve its purpose much longer. Three or four weeks is the average life of a Rose belt, though Kemp claims that many of his last six weeks.

To remove the bandage, it may be softened by applying a 10 per cent ointment of

wintergreen at night, and the following morning it will come off easily. The removal may also be facilitated by applying at the time either oil of wintergreen, ether or gasoline.

After the belt has been removed, if there is irritattion, the skin should be thoroughly bathed with soap and warm water, then gently rubbed with alcohol and well dusted with talcum powder. The application of the alcohol and talcum may be repeated several times daily with benefit, if it is desired to reapply the plaster speedily. When it is intended to put on another Rose belt, an interval of twenty-four or thirty-six hours, seldom more, is sufficient.

Where it is not practicable to obtain the wide plaster, a number of narrow strips may be used up to the required width, making a fairly good substitute.

Numerous modifications of the various methods of strapping have been suggested. Some have applied the plaster to the abdomen and fastened it behind by tapes running through eyelet holes, so as to loosen the constriction at night. Most of these modifications have not proved helpful, and the ones described may be considered as the most practical and dependable.

The sense of strength, comfort and general well-being bestowed by a well-adjusted Rose belt is sometimes remarkable. It has been demonstrated in many instances by the X-ray that the stomach can be raised and held up from 2 to 4 inches above its former level, while the intestines are also raised and the prolapsed and floating kidney or kidneys materially steadied. Patients whose abdominal viscera are thus supported find that they can walk erectly and firmly, and lose to a decided extent that sense of dragging-down, weakness and malaise so generally present in conditions of splanchnoptosis. I have seen several who for a long time would not go without the belt, except for the brief period necessary to quiet the irritative dermatitis.

While the belt is on every effort should be exerted toward the deposition of fat in the abdomen, as well as other parts of the body. A liberal and well-balanced dietary, coupled with requisite rest and other helpful influences will often enable these weak and melancholy semi-invalids to put on an amazing amount of adipose tissue, which in itself will steady and support the ptosed and poorly-supported viscera, while the general bodily strength will indirectly bestow tone to the flabby and relaxed abdominal parietes.

Often, also, I have observed stubborn constipation, evidently due to ptoses, kinks and torsion of the intestines, give way with surprising quickness after the application of a well-adjusted supportive belt.

This method, apart from the inconvenience previously mentioned, is both scientific and safe, and is commended as worthy of trial in all cases of gastroptosis, enteroptosis or nephroptosis in slender or emaciated patients. It can do no harm, and will more probably, especially if properly adjusted, bestow a decided amount of comfort and actual benefit.

COMPLETE EFFICIENT SURGERY.*

R. R. Kime, M. D., F. A. C. S.,
Lakeland, Fla.

The aim, object and ultimate result of surgery should be the relief of patient and prolongation of life.

Surgery, so far as possible, should be constructive and not destructive.

Restoring physiological function is of prime importance.

Conservation of tissue and structure when compatible with health and function are essential in complete efficient surgery.

Complete surgery should not mean reckless destruction of tissue.

To accomplish the above results require

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

a careful, close study of cause and effect recognizing the primary seat of disease, focus of infection and the secondary lesions that follow.

To ascertain these facts means a careful study and investigation of each case. A careful clinical history and a systematic examination are essential, commencing at the mouth, then throat, chest, abdominal organs, urinary and genital organs and last but often not of least importance the rectum, and always examine the urine. The clinical history and this examination will point the way to other special investigations needed to complete the diagnosis.

He who fails except in cases of emergency to examine the heart, also the urine, chemical and microscopical, in every case requiring an anæsthetic is negligent of his duty and sooner or later will come to grief and just censure.

Every surgeon should know if his patient has a heart or kidney lesion before giving an anæsthetic and operating.

As an illustration: Some three years ago I was called to a neighboring town to see a case in consultation; patient had been through the hands of seven or eight physicians, had been for a week or more in one of the best hospitals in Atlanta. She had been advised by one physician to have the appendix removed, by another to have the gall bladder drained.

I could not find positive indications for either, but did find an aneurism of the arch of the aorta and advised recumbent position for fear of early rupture.

In less than two months the patient raised up suddenly and died in a few minutes. If she had taken an anæsthetic for operation she would have died on the operating table and without post-mortem the death would have been charged up to the anæsthetic instead of neglect of proper examination.

Proper examination and preparation of patient before operation will often prevent complications and occasionally death.

Such examination will generally indicate the line of procedure for complete efficient surgery.

What will it profit a patient to remove an appendix if the cause of the trouble is a stone in the right ureter, disease of the gall bladder or ulcer of the duodenum. Even in many cases when the appendix is diseased there are other diseased structures that require surgical work; then incomplete work is an injustice to the patient and inefficient surgery.

In the majority of cases in women a small muscle-splitting incision and removal of appendix only is an abomination, incomplete, inefficient surgery. Through such an incision it is more difficult to break up adhesions, correct a Lane kink, a Jackson membrane, and one cannot efficiently correct a retrodeviated uterus, diseased tubes, diseased ovary, diseased gall bladder, ulcer of stomach, ulcer duodenum or ptosis of abdominal organs, etc.

It has been established that the base of the appendix in the majority of cases is not under McBurney's point, but Lanz's point and that point is nearer the border of the right rectus muscle.

In all intermediate operations for removal of the appendix such other surgical work as the patient needs that can be done with safety should be done at the same time. This avoids repeated operations and the often repeated statement of patients, "if I have one operation done it will call for other operations later."

If the operation is not on a case of acute infection, various operations can be grouped together very often and done at the same time with safety to patient, provided the surgeon does reasonably rapid work and the patient is put in proper condition for such work.

I frequently combine D. and C. of uterus, amputation of cervix, repair of perineum with abdominal work including appendectomy, shortening the round ligaments, re-

section or removal of ovaries or tubes, even supravaginal hysterectomy if indicated. One must be careful not to prolong the operation or overtax the patient's resisting powers by doing too much at one time.

I prefer not to operate on hemorrhoids at time of doing severe abdominal work, as it may interfere with use of proctoclysis after operation or mask symptoms due to more serious causes, beside there is more danger of infection in a patient with weakened resistance.

In the female it is so often that other work beside appendectomy is needed and if the general surgeon can not recognize the necessity for gynecological work in these cases he should not do the interval operation for appendicitis in the female.

In acute infections complete work can not always be done and here comes in the responsibility of the internist as well as the surgeon.

In acute infections of the pelvic organs wait until the acute condition subsides except in cases of abscess formation, then drain unless it be a pyosalpinx.

After the acute condition subsides waiting long enough for active infection to be over, and patient is put in proper condition, then do complete efficient work. Operation during an acute condition frequently means death.

In acute appendicitis we have a much more difficult question to decide; here we are treading on dangerous debatable ground and I fear I am not quite orthodox.

First: I believe there is a medical treatment that will lessen the danger in cases of appendicitis if you do not kill them with cathartics and food.

Remember that cathartics and food in acute appendicitis are as dangerous as dynamite and that cathartics and food have killed many and converted many more into surgical cases at a time that is most dangerous to patient.

If cathartics are given it should be within the first few hours of the attack and oils are to be preferred.

In the first twenty-four or forty-eight hours of acute appendicitis complete work can usually be done so far as the appendix is concerned; later the work will depend upon the condition of the patient, severity of infection, amount of adhesions and if abscess be present.

In all cases of perforation when recognized whether it be the appendix, stomach duodenum, intestine, or gall bladder, immediate surgery is indicated. While you may not in all cases be able to do complete surgery, yet it may be efficient.

In gall bladder and common duct surgery during acute infections the same general principles as in acute pelvic conditions hold good, unless it be in very active infections in the hands of an expert operator.

In subacute or chronic conditions complete efficient surgery can be done in most cases.

Cholecystectomy is indicated in obstructive conditions of cystic duct that can not be corrected otherwise and in serious diseased conditions of gall bladder wall that would leave behind a focus of infection to produce trouble and disease of pancreas.

To consider complete efficient surgery in detail in malignant conditions would extend this paper beyond the time limit, but in passing I would say that complete surgery is indicated in all cases where it is possible for it to be effective and efficient.

Many times surgery is rendered inefficient for want of proper preparation of patient before operation and also for want of proper care and attention in after treatment of the case. One may do complete surgery yet chronic surgery or produce so much traumatism as to render his work inefficient on account of adhesions and other complications following his work. Efficient surgical work does not as a rule begin and end in the operating room.

The most successful surgeon is the one

who makes a proper examination and then prepares his patient best before operating, doing complete efficient work when possible, giving good after care and treatment not only for immediate but remote permanent results.

UNRECOGNIZED NASAL DIPHTHERIA.*

U. S. Bird, M. D.,
Tampa, Fla.

As seen under modern conditions, a case of nasal diphtheria demands especial consideration, as a carrier of infection, rather than as a condition dangerous to the life of the subject.

Being more or less familiar with diphtheria, we may have conceived the significance of nasal diphtheria as described by Lennox Browne, one of the older authorities, he says:

"When the nares are involved, the mortality is so high that an attack so characterized has been aptly called 'malignant diphtheria'; indeed, in one thousand cases tabulated, the death rate amounted to 63.4%. Diphtheria but rarely invades the nares primarily; only two in one thousand cases are here recorded, but nasal diphtheria, as represented by an extension of the exudate from the pharynx, occurs in 21.3% of all cases. Its presence is further indicated by a nasal discharge, which is usually of a peculiarly fetid, sanious, irritating character which is quite distinctive."

The above is a picture from pre-antitoxin days which has been rarely seen since. I have never seen such a case. Some of the statements are unintelligible in the light of our present conception of diphtheria.

Some years ago a child was brought into a nose and throat clinic where I was working. For some weeks its parents had noticed that it had some nose trouble; the nose was a little scabby, bleeding a little at times, otherwise the child was apparently well, playing about as usual. A diagnosis of nasal diphtheria was made and confirmed. The contrast to the quotation of Browne is so marked that no comment is needed, except to emphasize the point that the latter is of a common type, and is to be expected and guarded against. That was the first of many similar cases I have observed, and it made an impression on me so profound that it has kept me continually on my guard, lest I should fail to recognize a condition of such gravity in so innocent a guise.

I know of no other serious condition so likely to be casually dismissed, as this apparently innocent rhinitis. I have never had a case which had been suspected by the family or the attending physician. Not all such infections are harmless to their host, although that would seem to be the rule.

I recall an experience of my childhood in which I was associated with two children whose nostrils were occluded for days by bloody scabs. Of course, I knew nothing of such things, but in the light of later experience, I do not doubt that it was diphtheria; nevertheless they recovered without serious incident, and without spreading the infection, so far as is known.

In contrast to this is a patient of mine which developed a typical virulent pharyngeal diphtheria during the night of the day on which I saw it. I had fortunately warned the parents of that danger. There may be a wide variation in the condition of such patients. A superficial examination may discover nothing abnormal, other than the nasal condition; others may show an elevated temperature and malaise.

The importance of the diagnosis requires a recapitulation: The nose presents a scabby or membranous appearance, usually both sides, with the evidence or history of slight bleeding; there is probably some discharge, or it may appear only as scabs, or dried secretion; there is no odor nor pain. The treatment is antitoxin.

---

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

It can be differentiated from the innocent so-called fibrinous rhinitis only by the laboratory. In one of my cases I had three cultures made in as many weeks before the condition was determined to be diphtheria. There was nothing wrong except with the nose, and without an informing previous experience I should have accepted the first negative report and been justified in so doing. A foreign body in the nose is usually suggested by a foul, purulent discharge and possible pain, being limited to one side. An examination will settle the question.

In conclusion it is safe to say that every case of scabby, bloody nose should be regarded as diphtheritic until the contrary is established.

PROPAGANDA FOR REFORM.

Piperazin, Lysidin, Lithium Carbonate, Sodium Bicarbonate and Sodium Citrate as Uric Acid Solvents.—H. D. Haskins has studied the uric acid solvent power of urine of persons taking the various substances classed as uric acid solvents. The investigation led to the following conclusions: 1. Piperazin can cause the urine to dissolve more uric acid than it would without the drug, and this effect is most marked if sodium citrate or bicarbonate be also given and if diuresis be avoided. 2. Lysidin can act as a uric acid solvent but is not a practical therapeutic agent because of the large doses required. 3. Lithium carbonate is a uric acid solvent if large enough doses are used, but is unsafe and possesses no advantage over sodium citrate or bicarbonate. 4. Sodium citrate and bicarbonate are reliable and satisfactory uric acid dissolving agents when given in such dosage as to keep the urine alkaline. (*The Archives of Internal Medicine*, March 15, 1916, p. 405.)

Emetic Action of Strophanthus not due to Oil.—Hatcher and Eggleston have shown that the digitalis bodies produce nausea and vomiting through action on the medulla and that the direct action on the mucous membrane of the stomach is unimportant. They demonstrated that the fixed oil (fat) of digitalis produced no action and conclude therefore that attempts to avoid the emetic action of digitalis by removal of oil from digitalis preparations is of no avail. Similarly Hatcher has recently determined that the oil contained in strophanthus is not the cause of the nausea sometimes produced by this drug. While removal of the oil renders tincture of strophanthus more "elegant" pharmaceutically, such removal is of no therapeutic importance. (*Jour. A. M. A.*, April 15, 1916, p. 1199.)

Venarsen, Venomer and Venodine.—The A. M. A. Chemical Laboratory found Venarsen, which is recommended by the manufacturers, the Intravenous Products Company, for the treatment of syphilis, tuberculosis, pellagra and other diseases, to be "a simple solution containing approximately 9 grains of sodium cacodylate, 1-40 grain of mercury 'viniodide' and 3-4 grain of sodium iodid to each full dose." Sodium cacodylate is inferior to salvarsan or neosalvarsan in the treatment of syphilis. The Council on Pharmacy and Chemistry held the claims made for Venarsen unwarranted and its intravenous injection uncalled for. Venomer, which is also offered as an antisyphilitic remedy, appears to be a variation on Venarsen, containing considerably less sodium cacodylate and considerably more mercury and iodids. It prompts the comment that a careful physician would not give arsenic and mercury in fixed proportions. Venodine was rejected by the Council on Pharmacy and Chemistry because the claims made for it were found unwarranted and its composition unscientific. The indiscriminate use of intravenous products is objectionable for many reasons. It incurs an unnecessary danger, and it puts the physician to needless trouble and the patient to unnecessary expense. (*Jour. A. M. A.*, March 25, 1916, p. 978.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.

Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.

Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.

GRAHAM E. HENSON, M. D.....*Jacksonville*

ASSOCIATE EDITORS.

THOMAS TRUELSEN, M. D.....*Tampa*
J. K. SIMPSON, M. D.....*Jacksonville*

COLLABORATORS.

RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa.....*Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville.....*Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville.... *Eye, Ear, Nose and Throat*
J. L. KIRBY-SMITH, M. D., Jacksonville...*Dermatology*
E. G. BIRGE, M. D., Jacksonville..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.

E. W. WARREN, *M. D.*, President ..... *Palatka*
JOHN A. SIMMONS, M. D., First Vice-President .....*Arcadia*
E. VAN HOOD, M. D., Second Vice-President .....*Ocala*
JOHN LONG, M. D., Third Vice-President .....*Lake City*
GRAHAM E. HENSON, M. D., Secretary-Treasurer .....*Jacksonville*

EXECUTIVE COMMITTEE

R. H. MCGINNIS, M. D.....*Jacksonville*
JOHN MACDIARMID, M. D.....*DeLand*
R. N. GREENE, M. D.....*Chattahoochee*

COUNCILLORS.

First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920

Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917

Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917

Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville..1918

Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala..1919

Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa.....1919

Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna.....1918

Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920

Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918

Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia.....1920

Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West.....1917

COMMITTEE ON SCIENTIFIC WORK.

F. C. MOOR, M. D.....Tallahassee
C. D. CHRIST, M. D.....Orlando
F. F. FERRIS, M. D.....Apalachicola

Next Meeting — Atlantic Beach — May, 1917

AN EXPLANATION.

THE JOURNAL regrets to announce that a corrected galley proof with certain additional manuscript intended for publication in this issue, together with corrected advertising form, became lost in the mail. It came to our notice too late to send out additional galley proofs to authors, or to request copy from advertisers. We believe that corrections to the advertising form made by memory are practically complete. Corrections have been made in all original articles in so far as we could detect that alterations in proof submitted by our printers were necessary.

The unavoidable delay resulting from this misfortune is responsible for the late appearance of this issue.

GOVERNMENT HEALTH WORK IN ALASKA.

With the aid of special appropriations granted by Congress during the past two years Secretary Lane of the Department of the Interior, through the Bureau of Education, has been able to make considerable progress in checking the ravages of disease among the natives of Alaska. The Government has recently opened a well-equipped hospital in Juneau for native patients and small hospitals are maintained at three other centers of native population. A number of physicians and nurses have been employed for service in hospitals and in maintaining sanitary conditions in native villages; and the teachers of the United States public schools in Alaska are supplied with medicines and medical books in order to enable them, in the absence of a physician, to treat minor ailments.

An investigation made several years ago showed that, without this work in disease prevention on the part of the Government, the native race in Alaska would soon die of tuberculosis and other diseases. The Department of the Interior and Congress have realized the urgent need for medical relief and it is believed that the steps now taken

will help to keep our record clear in maintaining the native population of Alaska, and in relieving them from the suffering caused by disease and the lack of proper medical attention.

EXPOSURE TO COLD AS A CAUSAL FACTOR IN DISEASES OF THE RESPIRATORY TRACT.

While it is generally admitted that most diseases of the respiratory tract are of bacterial origin, it has not been wholly determined whether or not the sudden exposure of the whole or part of the body to marked changes of temperature predisposes to various infections. Chodounsky in 1907 experimented with the effects of various bacilli on the lower animals and also made repeated studies on his own person. He was 57 years of age, subject to catarrh, to frequent attacks of bronchitis and to lumbago. He exposed himself naked to cold air and drafts at temperatures from 3 to 12 C. for periods of time varying from twenty minutes to one hour, immediately after cold or hot baths. Exposure to cold he concluded was not a causal factor in diseases of the respiratory tract. Yet considerable evidence has accumulated in support of the opposite view. Lipari, Lode, Pasteur and Kline and Winternitz, experimenting variously with infected animals, are all in accordance with the general conclusion that exposure to sudden changes of temperature lessens the resistance of animals to infection. The New York State Commission on ventilation reported the results of a clinical study of nearly 150 men subjected to sudden changes of temperature. It was concluded that such changes may be a factor in the causation of acute colds. Lately, J. A. Miller and W. C. Noble, working under the auspices of the same commission, have added some important data still further supporting this view. They infected a number of rabbits with *Bacillus bovisepticus*. This organism produces a general septicemia at times, but in some cases it is localized in the upper respiratory passages, in which it produces a condition commonly known as snuffles and may terminate in pneumonia with or without septicemia. Thirty-seven rabbits were kept in an incubator at varyingly high temperatures for different periods of time. They were then infected by spraying the nasal mucous membrane with saline suspension of *Bacillus bovisepticus,* after which they were exposed to cold for periods of from one-half to three hours. The animals were also wet with water to facilitate chilling. Both the mortality and morbidity were greater in the exposed animals than in a like number of controls maintained under normal conditions. The same general results were obtained when the animals were exposed to several changes of temperature, and the effect was even more marked when they were subjected to heat after exposure to cold. Although positive conclusions cannot be drawn from animal experimentation along this line, taken in conjunction with the results of several of the clinical studies, there is sufficient evidence from which to draw certain practical, working conclusions. The importance of the outdoor treatment of pulmonary tuberculosis and many other conditions is well established. It must not be forgotten, however, that the resistance of many of these patients to various infections is low. They should not be subjected suddenly to violent extremes of temperature, and proper precautions should always be taken against chilling of the body surfaces. It seems evident that the exposure of a portion of the body to cold is more likely to be followed by acute respiratory infections than when the entire body surface is subjected to the same low temperature, and the popular idea that drafts predispose to respiratory infection in some individuals is therefore not without foundation.—*Journal of the American Medical Association.*

GOVERNMENT WORK IN BEHALF OF RURAL SCHOOLS.

Rural education as an important national problem has had the attention of the government the past three years as never before. With additional appropriations from Congress for investigation in this direction, the Bureau of Education, under Secretary Lane of the Department of the Interior, has done an important pioneer work.

Fifty government bulletins have been issued on many phases of rural education, with an aggregate issue of half a million copies. These bulletins have been distributed to State and local school officials primarily concerned with rural schools; they have been read and reproduced and utilized with the public and before legislatures until a number of the States have enacted into law many of the changes advocated and thousands of teachers and superintendents have been stimulated to a broader view of their school problems. A single government bulletin on the consolidation of rural schools has been the chief factor in securing the establishment of over 200 consolidated schools in the State of Texas in the past two years, according to the Texas educational authorities. A bulletin describing the "county unit" of school administration has already resulted in the introduction of bills for a change in the form of administration in twelve States and actual legislation in four States.

The 20,000 letters received and answered during the past three years in the Division of Rural Education indicate at once the need for this work and the appreciation on the part of the public of the government's effort to help in the rural school problem. Officers of the Bureau of Education have given, on request, approximately 2,000 lectures on rural education at national and State educational gatherings in the past three years.

In other ways the government has taken a decisive leadership in the rural school campaign. The Bureau of Education organized two national conferences on teacher training for rural schools and two conferences of State rural school supervisors. Important legislation in Alabama and Texas was passed after conference with rural school officials of the Bureau of Education. A reading circle for rural teachers has been established in 42 States, in cooperation with the State departments of education. Officials of the bureau have not only visited rural schools in the United States, in order to make available for all parts of the country the successful work done by individual schools; they have also investigated and reported on the rural schools of Denmark, Switzerland and the British Isles, in order that the American people might have at their command the benefit of the best the Old World could offer in rural education.

THE ETIOLOGY OF EPIDEMIC POLIOMYELITIS.

Undoubtedly, the report by Mathers, in which he briefly announced his isolation of a peculiar pleomorphic coccus from the brain and cord after death from poliomyelitis, a coccus that caused paralysis in rabbits and monkeys, was read with much skepticism by many who are familiar with the previous work on the etiology of poliomyelitis. Had it not been established beyond all doubt, they asked, that poliomyelitis is caused by a filterable virus, practically ultramicroscopic? And is it not a fact that, in all the recent investigations into the causation of this disease, no mention even is made of any organism which can be seen and grown so easily as the one described by Mathers? But totally unexpected though they may have been, Mathers' results did not have to wait long for confirmation by other and independent workers, as shown by the reports of the splendid work by Rosenow and his co-workers and by that of Nuzum and Herzog in this issue of *The Journal*. The fact that what seems like the same streptococcus-like micrococcus

with the peculiar small and large forms has been isolated from the brain and cord in altogether about thirty cases of typical poliomyelitis in two widely separated cities by independent observers certainly must be accepted as sufficient evidence that the micro-organism plays such part in at least the current epidemic of poliomyelitis as to demand the closest and most exhaustive study. Indeed, when we consider the reported results of the various inoculation experiments on animals with the cultures obtained from the brain and cord, as well as with those obtained by Rosenow and his associates from the throat and tonsils in a large number of cases of poliomyelitis, experiments with both unfiltered and filtered materials, there seems to be no escape from the general conclusion that the organism either is a secondary invader which in cultures may be more or less closely associated with the independent virus of poliomyelitis, or that it is itself the cause of poliomyelitis and capable of existing in filterable and non-filterable forms. It would be interesting to discuss in detail the various facts and considerations which appear to favor the one and the other of these two possibilities, but it is doubtful whether such discussion would promote the final solution of the etiologic problem of poliomyelitis as now presented. We must await the results of further experiment and study.—*Journal of the American Medical Association.*

Reviews from Current Literature

INFANTILE PARALYSIS

Sophian, Abraham: Specific Treatment of Infantile Paralysis, J. A. M. A., Vol. LXVII, 1916, p. —.

It is manifestly difficult to speak with any certainty of the value of any curative treatment in a disease like infantile paralysis in which early diagnosis in the preparalytic stage is difficult, often impossible and in which the mortality is relatively low.

The treatment may be divided into (1) relief of hydrocephalus; (2) intraspinal injection of serum, normal human, normal horse, or convalescent; (3) control of special symptoms, as respiratory paralysis; (4) symptomatic general treatment, and (5) orthopedic treatment.

Hydrocephalus with its pressure symptoms is most pronounced during the acute stage. In most cases it is only moderate, but not infrequently, especially in the cerebral cases, it is quite pronounced. In the latter the patients are often very stuperous with twitchings, convulsions, and respiratory embarrassment. Paralysis of the respiratory center is the usual cause of death. Early relief of respiratory embarrassment is therefore important. One lumbar puncture usually suffices, but in some cases it must be done several times till relief is permanent. It is quite safe to remove fluid till the pressure drops to normal.

A highly immune serum for poliomyelitis has not been produced. We must rely on normal human, normal horse or convalescent serum.

In the series of cases reported by the author horse serum and convalescent serum was used. The convalescent series was small but the results were certainly no better than in the normal horse serum cases. In the normal horse serum cases, two cases treated in the preparalytic stage were aborted. One case was aborted under the convalescent serum treatment. Some of the late cases treated showed more improvement than is generally seen in untreated cases. There was more rapid convalescence and improvement in the paralytic condition. From 10-15 c. c. of serum were repeatedly injected after permitting enough cerebro-spinal fluid to escape to bring its pressure to about normal. T. T.

CARE OF THE INFANT DURING HOT WEATHER

Brady, Jules M.: The Care of the Delicate Infant During Hot Weather. Journal Missouri State Medical Association, Aug., 1916, Vol. XIII, p. 383.

The tolerance of the infant for food is diminished during hot weather, and especially does this apply to fats and sugars. After the first year it is a common error to give delicate children too much milk in order to bring about a gain in weight. Such children should have about a pint of milk, never more than a quart daily. This is to be supplemented by thoroughly cooked cereals, vegetables and fruits all passed through a fine mesh colander. The flannel band should be discarded but the hands and feet should not be allowed to remain cold. A cotton shirt and diaper is sufficient clothing for delicate babies on excessively hot days. Alimentary intoxication can be induced by an excess of clothes. Circulating air is necessary and the baby's bed should be ventilated from all sides. The regular use of a clinical thermometer is indicated for determining the clothing needed by delicate infants, since an equilibrium should be established between the amount of heat manufactured and lost through radiation, conduction and evaporation. J. D. L.

NEW AND NONOFFICIAL REMEDIES.

Galactenzyme Bouillon.—A pure culture in vials of Bacillus bulgaricus each vial containing about 6 c.c. Used internally for intestinal fermentative disorders and topically in nasal, aural, throat, urethral and other affections when the use of such a culture is indicated. Put up in packages of 12 vials each. The Abbott Laboratories, Chicago.

Galactenzyme Tablets.—Tablets containing a practically pure culture of Bacillus bulgaricus. For administration in intestinal fermentative diseases. Put up in bottles containing 100 tablets each and bearing an expiration date. The Abbott Laboratories, Chicago.

Standard Radium Solution for Drinking (1 Microgram Ra).—Each bottle (60 c.c.) contains radium chloride equivalent to 1 microgram Ra, and 1.3 gm. of barium chloride. The solution contained in one bottle is taken after each meal. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, July 1, 1916, p. 35.)

Solution Brain Extract.—Solution Thromboplastin-Hess.—An extract of ox brain in physiologic salt solution prepared by the method of Hess. It has the properties of thromboplastic substances described above. The solution may be applied directly to, or sprayed on the tissues or by means of a sponge or tampon.

Radium Carbonate, Schlesinger Radium Co.—It complies with the standards of N.N.R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Chloride, Schlesinger Radium Co.—It complies with the standards of N.N.R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Sulphate, Schlesinger Radium Co.—It complies with the standards of N.N.R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo. (*Jour. A. M. A.*, July 8, 1916, p. 121.)

Vitalait Starter.—A culture in vials of the Bacillus bulgaricus and the Streptococcus acidi bactici in symbiosis. It is intended for the home preparation of fermented milk. Sufficient to prepare from 1 to 3 quarts of fermented milk is sent on request of the physician to the patient twice a week. The Vitalait Laboratory, Inc., Newton Centre, Mass. (*Jour. A. M. A.*, July 15, 1916, p. 203.)

Publisher's Notes

HALF A CENTURY'S PROGRESS

October, 1916, points an epoch in the history of Parke, Davis & Co. The house was founded in 1866—just fifty years ago this month—largely upon the optimism of three or four determined men, backed by a capital that would seem insignificant today. There was nothing in its unpretentious origin to foretell the success of after-years. And by success we mean not merely material prosperity, but also that broader and more enduring success that is based upon good-will and confidence.

Manufacturing pharmacy was then a crude, imperfect art. Bacteriology, pharmacology and biological pharmacy were as yet unborn. There were no curative sera or vaccines in those days. Prophylaxis was in its infancy. Standardization was unknown.

Fifty years have wrought marvelous changes in means and methods for the treatment of human ills. The materia medica has been amplified beyond the dreams of the earlier investigators. Knowledge of pathology has immensely broadened. The empiricism of the past has given way to rational therapeutics, and medicine is taking its rightful place among the sciences.

In all these forward movements Parke, Davis & Co. have had some part—notably as discoverers of new vegetable drugs, as inventors of new chemical compounds, as pathfinders and producers in the field of biological manufacture, as investigators in original research, as pioneers in both chemical and physiological standardization.

The past half-century, as we have intimated, has been remarkable in its contributions to the newer materia medica. What will the next fifty years bring forward? Time alone can write the answer. Ours is a progressive age. The science of medicine has not reached its highest development. The physician's armamentarium will be further enlarged and fortified. New remedial agents will come into being. Many existing products will be improved. And with the fulfillment of these conditions, Parke, Davis & Co. (if we may judge the future by the past) are certain to be identified.

Our Advertisers are helping us—are you helping them?

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, December, 1916 Number 6

ORIGINAL ARTICLES

HORMONES AND HORMONE THERAPY.*

J. E. Caldwell, M. D.,
Bradentown, Fla.

Concerning this important subject perhaps none will claim exhaustive knowledge. Judging by the modest words of some of our efficient teachers, scientists who have made organo-therapy an important adjunct to their former armamentarium, we must conclude that in the minds of the foremost there remains much yet to be learned about hormones.

Perhaps one of the best definitions of this word is that given last year before the Royal Society of Medicine by Professor Starling himself, who originated the name hormone soon after he and Bayliss discovered and described secretin in 1902 in the research laboratory of University College, London. His words are as follows:

"By the term hormone I understand any substance normally produced in the cells of some part of the body and carried by the blood stream to distant parts, which it affects for the good of the whole. The hormones are thus chemical means of correlation of the activities of the different parts of the body. Their action may be the increase or diminution of function or the alteration of nutrition or rate of growth."

A list of the organs which secrete these hormones furnishes us some surprises. For many years, to my knowledge, the functions of some of the ductless glands, the spleen, the thymus and thyroid glands and others were entirely unknown or were subjects of debate and wide difference of opinion among physiologists. Larger experience, better means of investigation, and, above all, a more earnest spirit of research by a large number of able men, have contributed to an increase of definite knowledge along these lines. Today a "new physiology" has developed and men abundantly able to teach tell us more or less clearly of the functions of the pituitary gland, the function of one lobe of which differs from that of the others; the functions of the suprarenal capsule, whose cortex is said to produce one effect, while its medulla produces another; of the parathyroids, four little bodies scarcely larger than the head of a pin near the thyroid glands, the physiologic importance of which seems to be altogether out of proportion to their diminutive size, and even of the hormonogenic function of the mammæ, of the testes and of the ovaries, different portions of which produce hormones having different offices to perform. Our teachers tell us, also, that even the liver and the kidneys generate hormones, and the mucous membrane of the duodenum and of the pylorus produces secretin, an important hormone vitally connected with the digestive function of all mammals.

We are taught by the best authorities that both anabolism and catabolism of the entire body, and all the activities of the digestive, circulatory and reproductive systems are more fully under the control of the hormones than they are of the nervous system, the paramount influence of which was so confidently taught only a few years ago.

In the definition of hormones already herein quoted, the author says that development and rate of growth are under the control of the hormones. We ought here to notice a few striking examples of some

*Read by title before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

formerly unaccountable sorts of development.

One curious freak of change I found reported by an investigator living in Europe. A woman in advanced life, having passed the climacteric change, was seen to lose her female characteristics and to take on those of the male. She became muscular and came to enjoy heavy outdoor exercise, grew a beard, acquired a heavy voice like that of a man; in short, she became masculine in many particulars. Later, when examined in autopsy, the chief mark of tissue change observed was a lipomatous degeneration of the suprarenal capsules. In the light of the new physiology the changes described in this woman may have resulted from unbalanced hormones.

Another evidence of the transforming power of the internal secretions is furnished in the experimental work I saw reported by Eaton of Seattle. "Upon the removal of the ovaries of a young female, followed by the transplanting of the sexual organs of the opposite sex, the female was caused to develop into an individual having all the characteristics of the male." "There are well authenticated cases in which the decidual tissues during pregnancy have developed in remote organs as well as in the uterus, showing that the development of the placenta is but one of the local manifestations of a general condition, and this (condition) is brought about and controlled by the secretion of the ovary."

Here I might mention the case of the Polish sisters, the report of which fell under my notice some months ago. These twins were born attached to each other back to back, the connection being similar to that of the Siamese twins so well known in this country a generation ago, the same blood circulating through the bodies of both. When they reached maturity, one of them was married, and in the course of time a baby was born. The galactogenic function of the breasts of both sisters was immediately activated. Both the mother and her twin sister gave milk. This fact is interpreted by physiologists as teaching that, being supplied with blood common to them both, the breasts of the virgin sister were activated by the hormone generated in the uterus (perhaps by the placenta) which nature intended for the breasts of the mother alone. However conservative and doubtful we may feel inclined to be, we cannot deny that the theory our physiologists offer furnishes a rational explanation of the phenomenon observed.

Among the most prominent of the teachers giving out these facts and opinions may be mentioned Ott, Simpson, McCallum, Klotz, Beebe and Sajous. Indeed, the literature of this new physiology in America has become so voluminous that the ordinary student cannot hope to examine it all, while in Europe, a system of therapeutics based upon these teachings has been developed until it has become quite general. Opotherapy, as the French generally call it, is said to be much more commonly used in Europe than it is in this country. In Harrower's new book, "Practical Hormone Therapy," we have an admirable compilation of much that has been taught, already classified and tabulated.

In the last decade of the nineteenth century we thought we had wonderful light in the definite, clear and startling revelations of truth concerning the activities of the peptic glands, brought to us in the English translation of the works of Pawlow, the Russian scientist, and we had. Though they were novel, and, at that time, unique, I have never heard their correctness called in question. In the higher and better form of therapeutics springing from a knowledge of digestion in health and disease, namely, in dietetics, the teachings of Pawlow and his fellow investigators have done much for science, and, hence, for humanity. But still more wonderful and more intensely interesting are the facts brought to us in the revelations given concerning the system comprising the various glands producing hormones.

Pawlow told us that the peptic glands seem nothing short of purposive in their activities, and so definite in their action that each varying kind of food employed calls out a special quality as well as a definite quantity of gastric juice, and always the same in all healthy animals, under the same given circumstances.

The new physiology teaches us that all the varied functions of all the organs of the body are under the direct control of these chemical messengers or hormones, manufactured in some distant organ and furnished at just the right time and in the needed quantity to make for the good of the animal economy. They tell us these hormones are furnished in pairs or in groups which antagonize each other. As muscle antagonizes muscle in the motor system, thus securing co-ordination in the movements of the various members, placing all under the control of the will, so these hormones antagonize one another in their effects, giving co-ordination of function throughout the body. For example, the thyroid hormone tends to stimulate the heart to more rapid action. One of the various symptoms of hyperthyroidism is tachycardia or rapid heart action not necessarily associated with fever. We have evidence that in the blood of those whose thyroids have been removed there is a chemical substance which retards the action of the heart. Under the influence of these antagonizing forces the action of the heart in health may be held under control.

Again, adrenalin, one of the hormones of the suprarenal capsule, is believed to stimulate the glycogenic function of the liver, while a hormone produced in the pancreas inhibits this function. While these two agents are acting together in the healthy, the amount of sugar manufactured is just enough for the system. When these hormones are unbalanced, ill health follows, one manifestation of which is diabetes, or an excess of sugar in the system, giving glycosuria.

Pawlow's teachings suggest that the Creator is a Physicist and a Phychologist. The new physiology teaches that He must also be an all-wise Chemist, for the organs producing these wonderful chemical substances now believed to be essential to the co-ordination of the activities of all the organs of the body—these organs, I say, mutely declare in accents loud and clear, "The hand that made us is divine."

As the kidneys are known to be complementary to each other in the performance of their common excretory function, either organ being able to take up more than its usual amount of work, in order, to some extent, to assist the other when injury or disease makes it necessary, so some of these hormone secreting glands seem to be complementary to each other. Two or three of them sometimes share together the work of activating or inhibiting the activities of certain important organs. Thus the vaso-constrictor action of extracts made from the suprarenal gland, and of those from the posterior lobe of the pituitary gland, are similar, the latter being credited with much more permanent effects.

Some enzymes are also hormones. We are all well acquainted with the common use of hydrochloric acid as an aid in certain forms of indigestion, having been taught nearly a generation ago that it acts in the digestion of proteids. Now we are taught, however, that as soon as the hydrochloric acid, either the natural ingredient of the gastric juice or that furnished artificially passes through the pylorus and comes in contact with the mucous membrane of the duodenum, secretin is produced in increased quantity. Carried in the blood stream, this soon reaches the pancreas which it immediately activates to produce the enzyme trypsin, the richest and most energetic of all the ferments of digestion, and is the pancreatic agent in the reduction of proteids. What actually takes place, we are told (and this I have in a personal letter from Harrower), is this: The secretin

releases the trypsinogen which it changes into trypsin under the influence of the so-called "ferment of ferments—enterokinase."

We are told also that this same enzyme trypsin may also act as a hormone, stimulating metabolism in distant parts of the body, securing increased growth or storing up fat.

Nothing could be more fascinating, from a physician's viewpoint, than the therapeutic application of these principles and facts. Much good work has been done by many clinicians in this field of investigation, and some applications of organo-therapy, being found dependable, have become popular in the profession; yet much remains to be done. What doctor has not used adrenalin locally as a vaso-constrictor and pituitrin in his obstetrical practice?

Although the physiologic antagonism between the mammæ and the pelvic organs has been suspected or believed for a long time, it was not fully established as a fact until the "hormone theory" was brought forward and substantiated.

As early as 1896 Bell began treating uterine fibroids with thyroid extracts. Later he substituted mammary extracts with very encouraging results.

In cases favorably reported pain and hemorrhage disappeared or were diminished, while in others the tumors were materially diminished in size. The reports of Shoberg are quite as favorable, and mammary extracts are strongly recommended in both menorrhagia and metrorrhagia. He states, however, that an addition of a small amount of thyroid extract insures even better results.

More recently Feodoroff has published statistical reports of the use of mammary extracts in the treatment of uterine fibroids. In 53 per cent of his cases, he was able to note a reduction in the size of the tumors. In 83 per cent, hemorrhage and profuse menstruation were absolutely controlled. In 40 per cent, pain was abolished, and in only 14 per cent of his cases was there total failure.

Mekerttschiants reports fifty cases personally treated, and he is enthusiastic in his praise of the method. He regards it as "the touchstone" of all uterine fibroids before operative interference is decided upon.

Some of the cases of uterine fibroid that come to us are inoperable, while others, either from fear of the knife or from poverty, do not reach the surgeon. A method that offers such a large proportion of improvements is certainly not to be ignored; moreover, these reports show that the general condition of cases that must ultimately come to the operating table have their condition vastly improved by preliminary mammary treatment, thus giving better end results.

Both Nathan and Delaney have reported either marked improvement or entire cure of the cases of rheumatoid arthritis which they have treated with thymus gland extracts.

When a child is found not to have enough antibodies in his tissues to resist the poison of diphtheria germs, or of tetanus germs, we do not hesitate to ask the horse for antitoxin that more antibodies may be generated, and we freely furnish it to the child, thus cutting short his sickness or, perhaps, saving his life. So, likewise, there should be no prejudice against asking the sheep or cow for a supply of secretin for indigestion, or of mammary gland extract for hemorrhage caused by uterine fibroids, or of the thyroid glands when the patient shows any one of the vast number of symptoms of hypothyroidism.

In view of the large amount of clinical study that is being devoted to this subject, may we not expect to see the application of these principles become much more common, and in consequence, to see the healing art become more natural, hence, more scientific?

The past twenty-five years has witnessed a marked change in the esteem in which

internal medication is held by both medical men and the more thoughtful portion of the laity. Professional men are viewing with favor the strong trend toward dependence upon natural therapeutic measures rather than the exhibition of poisonous drugs. Hygienic therapy is far more popular now than it was a generation ago. Since hormone therapy is, strictly speaking, a drugless method of healing disease, its appearance just now seems quite opportune.

In the past few years improvements in the methods of surgery and successes achieved through bacteriological investigations, have enjoyed the limelight of popular attention. The internal secretions seem now to be demanding their share of recognition from all who care to keep up with the march of human progress.

THE DUTY OF THE PHYSICIAN TOWARD THE ERADICATION OF MALARIA.*

Graham E. Henson, M. D.,
Jacksonville, Fla.

It is generally recognized by both the laity and our own profession that while in the past all that was expected of the physician was the curing of ills and the giving of relief to the sufferer, today more is expected and even demanded of him by civilization. As our knowledge concerning the etiology and transmission of disease has increased, so also has our ability to be of service to mankind not only in recognizing and treating disease but in actually preventing it. We also recognize both in surgical and medical fields that properly applied management of our patients is in itself a potent factor toward the betterment and progress of civilization.

In surgery the American Society for the Control of Cancer, an organization including the most brilliant surgeons within its ranks, is carrying on a propaganda of education, having foremost in mind the necessity for early recognition of this dread disease, recognizing that in an early recognition lies the most formidable weapon in cutting down the mortality that now numbers many thousands each year. The surgeon of today realizes that his duty is not limited to the actual operative field, but immense as his opportunities may be in his field of endeavor they do not compare with those offered the medical man. We have only to stop and think of the measures we now have at our command, to say nothing of further measures which as a result of intensive research work we have good reason to believe may soon further replete our armamentarium, for the control of such diseases as smallpox, typhoid fever, tuberculosis, diphtheria, yellow fever, poliomyelitis, uncinariasis, the dysenteries, malaria and many others, to thoroughly appreciate our opportunities and responsibilities.

Take any portion of the civilized world today and compare the morbidity and the actual mortality of any of these diseases with that of even a decade ago, and medicine has surely a monument that every physician should be proud of. We have, however, not done enough, and in addition to the work being carried on by the sanitarian, in addition to that carried on by the various educational bodies, the physician has a distinctive duty in helping not only to reduce but to actually exterminate certain diseases still responsible for a large morbidity in various sections of the world, resulting in untold misery and hundreds of thousands of preventable deaths. Among the foremost of these is malaria. I cannot emphasize too strongly that in my opinion the greatest duty the physician has today, especially the southern physician, is the actual extermination of this disease. In the consideration of the subject it must be remembered that in determining the etiology—the transmission from mosquito to man and again from man to mosquito, research workers have completed their work to the minutest detail.

---

*Read by invitation before the Columbia County Medical Society at Lake City, November 6, 1916.

Again let us realize that we have in the salts of quinine an absolute specific for fighting these infections. Should we not, with this knowledge, put our shoulders to the wheel and eradicate an infection that is the cause of so much misery, suffering, innumerable deaths and of such enormous economic loss to both capital and labor? How can we as physicians apply our knowledge to the eradication of this infection?

Volumes have been written, and fortunes spent, toward the sought-for eradication with mosquito extermination as the theme, but, while not wishing in the slightest to detract from the work of our sanitarians in mosquito extermination for the control of malaria, I maintain that in countries where you can only control the mosquito you can only control malaria. On the other hand I claim it is practical in temperate climates not to be satisfied with the control of malaria, but that with the working knowledge we have of the cycle of the parasite in man and the mosquito we should not be content with anything less than complete eradication. Carrying on a campaign for the eradication of malaria by mosquito control is to my mind very similar to treating a population suffering with uncinariasis by feeding them on thymol, but making no provision to furnish them with shoes or sanitary privies. How then should we approach this task? In answering the question, let us review the cycle of the malarial parasite, considering first the asexual cycle as it takes place in the human host, then the sexual cycle as it occurs in the body of the mosquito, and finally the effect of early diagnosis and the administration of proper specific treatment on this cycle, demonstrating as we will that the evolution can be broken at any point during the cycle in the human host.

We have four distinct species of malarial organisms known as the Plasmodium vivax producing benign tertian infections, Plasmodium malariæ producing quartan infections, Plasmodium falciparum producing æstivo-autumnal infections of the tertian type and Plasmodium falciparum quotidian producing æstivo-autumnal infections of the quotidian type. The general principles of evolution are, however, the same in all species, although there are differences in the morphology of the parasites and the time required for the complete asexual cycle, depending upon the specie.

A person bitten with an infected anopheline has injected into his circulation during the biting process by this insect numbers of minute organisms known as sporozoites, these being contained in the saliva of the insect. They are needle-shaped forms which immediately upon gaining access to the circulation of man penetrate the red corpuscles, the parasites taking the red cells as their habitat during the asexual cycle. Immediately upon entering the red cells, the sporozoites assume ring-shaped forms and are known as trophozoites. These organisms are first nonmotile, they assimilate hemoglobin from their host and rapidly become actively motile, developing pigment as they grow. These ring forms or trophozoites vary both in size and morphology depending on the various specie. They later lose their ring form and take on various shapes and are known as schizonts. Still actively motile, they increase in size gradually enroaching on the red cell they occupy until the presporulating form is developed. As the sporulating body develops, numerous ovoid bodies are to be seen within the parent organism. As sporulation is completed, the red corpuscle is destroyed and the numerous ovoid bodies known as merozoites become free in the blood plasma. They immediately penetrate other red cells and are ready to continue the same process of evolution originally started by the sporozoites or the minute bodies injected by the mosquito in her biting process. Thus the evolution goes on *ad infinitum* until arrested by specific treatment, by the natural resistance of the patient, or until evolution takes on a peculiar phenomenon in which the merozoites,

instead of continuing the asexual cycle, undergo a morphological change and develop into gametes or sexual organisms, the male being known as the microgametocyte, the female as the macrogamete.

While every step of the evolution just described has been observed by innumerable authors, as has also the sexual evolution taking place in the body of the mosquito, to be later described, we have no definite knowledge as to the cause or causes that results in a merozoite ceasing the asexual cycle, and assuming that resulting in the formation of gametes, which upon being ingested by the biting mosquito undergo the sexual cycle in the body of that insect. We do know, however, that these forms are never seen until an infection is at least ten days old, that they are never seen in a case that receives prompt, efficient and continued specific treatment and that inadequate treatment consisting of small doses of quinine or single large doses, in other words, that any other than intensive specific treatment tends to develop these sexual forms. The sexual forms being less amenable to quinine, the theory has been advanced that when the cycle seems threatened either by the natural resistance of the patient, or by the introduction of quinine, insufficient to destroy the plasmodia, but enough to sound, as it were, a note of warning—that the merozoite scenting danger and the interruption of the cycle cries "safety first" and the phenomenon of the formation of gametes is under way. The malarial carrier presents a more or less well-known clinical picture to all of us. More or less frequent exacerbations of fever is the rule, but an important consideration is the fact that an individual may harbor gametes without suffering any apparent inconvenience. While it is true that their hemoglobin content will be below normal, a gamete carrier may remain in fairly good health for long periods of time, but is, of course, a source of infection to all anopheline mosquitoes that feed on his blood. An important feature in an educational propaganda for the eradication of malaria is to disabuse the minds of the inhabitants of an infected territory that their recurrences of malarial infection are to be taken as a matter of course and to educate them up to the point of appreciating the fact that in allowing themselves to remain chronic sufferers of the disease they are themselves perpetuating the infections in harboring within their circulation the sexual forms of the parasite. It should be clearly understood that macrogametes and microgameocytes once formed are incapable of continuing evolution within the circulation of man, and that, although they remain alive for long periods of time, actual evolution cannot proceed until these organisms reach the stomach of the mosquito.

Let us now consider the further evolution of the organism as it occurs in the body of the mosquito. The insect feeding on a carrier, gametes are ingested during the blood-sucking meal. The first change noted occurs in the male organism, the microgametocyte, and consists of long thread-like filaments being thrown out, these number from two to eight in number and measure in length from two to four times the diameter of the parent organism. This process of evolution is termed exflagellation. The thread-like filaments are seen to thrash about and to finally detach themselves from the parent body which undergoes degeneration. The filament described is the full-grown male or microgamete, which now seeks, penetrates and fertilizes the female form — the macrogamete. As a result of fertilization an oval body becomes formed, known as a zygote. As evolution proceeds within the muscular walls of the stomach of the mosquito the zygote loses its oval shape and becomes an elongated form and is termed an ookinette. As evolution further progresses, this in turn becomes the oocyst, having a diameter about 7 microns. Within this organism sporozoites develop which finally find their way to the salivary glands of

the insect, a complete cycle of evolution being thus terminated, and we find the insect ready to again transmit sporozoites in her biting process by which the endless chain of evolution can be carried on.

Of especial significance in considering the eradication of malaria in all temperate climates is the fact that it has been demonstrated that the cycle within the mosquito is interrupted during the winter months. A temperature of 60° Fahrenheit kills all forms of the organism within the body of this insect, which means that with the advent of warm weather all mosquitoes are sterile until such time as they are able to feed on infected man in whom the asexual cycle continues regardless of climatic conditions. With as complete a knowledge as we have of this evolution, it is hard to understand why for so many years so much stress has been laid upon the fact of mosquito infecting man, with so little attention being drawn to the plainly evident fact of man infecting the mosquito. It is an interesting fact that not only does man infect the mosquito, but to a great degree regulates the intensity of infections the mosquito is capable of producing. By that I mean a mosquito biting an individual only moderately infected with gametes develops sporozoites in such numbers as to be capable of producing only moderately severe infections, while on the other hand, let a mosquito feed on the blood of an individual carrying large numbers of gametes in his circulation, the insect develops sporozoites in such numbers that when she feeds on another person large numbers of these minute organisms are injected and an intensive infection results.

With such complete knowledge of the life cycle of the malarial organism in both man and the mosquito, bearing in mind that at least in temperate climates the cycle is broken within the body of the mosquito during the winter months, having an absolute specific in the salts of quinine for the interruption of the cycle in man, how can we best proceed to exterminate the disease?

It is not my intention to discuss the many measures we have at our command or to even follow the line of discussion generally followed in considering the eradication of malaria other than to mention them in passing. Briefly they may be summed up as mosquito destruction by physical means, such as drainage, filling in of lowlands, the actual destruction of mosquitoes within the home by fumigation or other means, the oiling of water containing larvæ or the use of chemicals for the destruction of larvæ, mechanical means for the prevention of the infected mosquito gaining access to man and the general education of the public concerning all measures employed for the control of the infection.

Each and all of these have their place in a well-regulated campaign against malaria; the adoption of these measures, however, belong more properly to the sanitarians and health officers than to the general physician. There is, however, an important measure that I feel has been largely neglected in campaigns for the eradication of malaria, a measure which neglected makes it impossible for most campaigns to be fully effective, a measure that directly concerns the man engaged in the practice of medicine. I refer to measures directed against the plasmodia within the circulation of man. When we consider the asexual cycle of this organism as it occurs in the circulation of man, when we recall that gametes do not form until after infection is several days old, when we realize that without the formation of gametes the infection of the mosquito becomes impossible, thereby breaking the cycle, when we recall that the cycle is broken in the body of the mosquito under certain climatic conditions, when we stop and consider that the early diagnosis and administration of effective treatment not only cures our patient, but renders the infection of other mosquitoes an impossibility, must we not recognize how grossly we err

in our duty toward mankind when we fail to adopt these principles? The question is raised what constitutes effective treatment against malarial infections. While laurels may be heaped upon the crowns of members of our profession for many good deeds performed, I feel that it is to our shame that this question cannot be answered beyond cavil and quibble. Select at random a dozen members of our profession and you will find advocated as many lines of treatment. I do not refer to the small minority who advocate treatment other than with the specific, quinine, but, knowing that in this drug we have a specific, I believe the greatest duty the profession owes to itself and to mankind is to standardize the treatment of this disease. Is there any great amount of quibbling as to the dosage of mercury and salvarsan in the treatment of lues? Why cannot we have a standardized treatment applicable to the cure of malaria? In closing I would urge upon you the necessity for an early diagnosis of the disease, for the administration of continued specific treatment for at least six weeks and the treatment of all carriers during the winter months so that with the advent of spring there are no latent infections upon which the mosquito can feed and become infected.

VITAMINE.*

ARDREY W. DOWNS, M. D.,
Professor of Physiology,
The Medico-Chirurgical College, Philadelphia, Penna.

(*An abstract of an article entitled, "Concerning Oryzanin, a Constituent of Rice Bran and Its Physiologic Importance," by Suzuki, Shimamura and Odake, which was published in the Biochemische Zeitschrift, number 43, in* 1912.)

Eijkmann, in 1897, observed for the first time that fowls fed exclusively upon rice, which had been carefully freed from its "silver skin," in a short time lost their appetite and died under strong starvation. He further particularly remarked that these appearances have a great similarity to beriberi in man. If the fowls are fed with unpolished rice, or with polished rice and rice bran, they not only live but those which had become ill were rapidly cured. These observations were later tested by various writers and clearly established.

Concerning the preceding facts no satisfactory explanation was forthcoming, but various ones differing widely were offered. According to Eijkmann we have here poisoning through poisonous material in the starch of polished rice, or poisons produced through enteric fermentation of the starch, or through abnormal metabolism in the animal. According to Maurer, the illness is a poisoning due to fermentation products formed during digestion, particularly oxalic acid. Shakaki believed the illness resulted from poisonous materials produced by bacterial activity in the rice itself. Matsushita believed the trouble was due to a deficiency of albumin, and Schaumann to a deficiency of organic phosphorous compounds. The history and literature of these observations may be found in the "Bulletin of the Japanese Ministry Commission for the Study of Kakke (1911)."

The only certainty was that rice bran contained some material which had the property of curing the sickened animals or of preventing the sickness. The authors worked on this subject four years; first verifying Eijkmann's observations and then isolating the active material from the bran and studying its chemical nature. The ethereal extract of rice bran is inactive, but the fat free bran remaining is equally active with the original. If the fat free bran be extracted with hot alcohol, then the active material is found in the alcoholic solution and the residue is completely inactive. Since polished rice is very deficient in inorganic constituents, such as phosphorous, iron, calcium, magnesium, potassium, etc., the

*Read at special meeting of the Volusia County Medical Society held at the Ormond Hotel March 21, 1916.

authors surmised that the animals were suffering from a lack of mineral matter. This assumption, however, could scarcely be correct since the residue after extraction with ether and alcohol while inactive is still rich in albumin, starch, fibre, pytin, salts, etc. They clearly established that casein, peptone, egg albumin, lecithin, phytin and salts have no protective or curative action against the illness.

The alcoholic extract consists of an acid, thick, brown syrup, very rich in sugar, organic acids, lecithin and salts. When this is dissolved in a little water, weakly acidified with sulphuric acid and precipitated with phospho-tungstic acid, there results a flocculent precipitate that carries with it the major portion of the active material; while sugar, organic acids and other impurities for the most part remain behind in solution. The precipitate is then decomposed with barium hydroxide and a weakly acid, clear brown syrup is obtained that is ten times as active as the alcoholic extract. The authors call this "Raw oryzanin 1."

Raw oryzanin 1 is then dissolved in a little water and precipitated with tannin. Part of the oryzanin is precipitated. The tannin precipitate is decomposed by barium hydroxide and the excess of barium is separated by sulphuric acid. There results a clear brown syrup—"Raw oryzanin 2"—which is three times as active as raw oryzanin 1. A fairly pure precipitate can be obtained by direct precipitation of the alcoholic extract with tannin. From raw oryzanin 2 the authors, by means of picric acid, isolated the active material, oryzanin, in a fairly pure state. The picrate yield is very small and there are some doubts concerning its exact chemical composition.

One-half to one centigram of the picrate preparation per os or subcutaneously to a pigeon sickened through an exclusive diet of polished rice effects a cure in a few days; the appetite rapidly returns and body weight regularly increases. A pigeon can be kept alive at desire if the same dosage of oryzanin is given daily with a polished rice diet. In the absence of this the animal dies in two or three weeks. A pigeon weighing 300 grams eats 25 to 30 grams of rice daily; the oryzanin constitutes about 1-5000 of the total amount of food. It is remarkable that so small a proporttion of oryzanin exercises such a large influence on the nourishment of the animal. The question then arises as to other animals. The authors found that fowls, mice and dogs react toward oryzanin exactly as pigeons do. Mice die surely in ten to fifteen days upon an exclusive diet of polished rice, but remain healthy and normal for a long time if the alcoholic extract of bran or raw oryzanin is also given. Dogs fed cooked rice and boiled out horseflesh experienced no trouble at first, but in two or three weeks the appetite failed, and after five to seven weeks they died under strong starvation. 3 or 4 grams of the alcoholic extract, or 0.3 to 0.4 grams of raw oryzanin 1 cured apparently morbid dogs in a few days; the appetite rapidly returned and the body weight quickly increased. Withdraw the dosage of oryzanin and the animal becomes sick again. With growing dogs we have in seven months repeated four times the same course of events. Fats and salts show no observable influence and we take it that oryzanin constitutes a material essential to the maintenance of animal life. With pure albumins, fats and carbohydrates and salts as a diet, animals cannot remain alive for long. Such a diet does not contain oryzanin. To investigate further, we have fed pigeons and mice with a food mixture of pure isolated foodstuffs put together. Two pigeons were fed with potato starch, peptone, lecithin, phytin and salts; two others were fed the same way with the addition of three centigrams of raw oryzanin 1. The difference was remarkable; the two former died from starvation in ten to fifteen days, while the other two remained healthy and notably increased in weight. Instead of peptone we

have used casein, egg albumin and bran albumin (extracted by dilute alkali and precipitated by acetic acid) with results exactly as before. Other pigeons were fed on an albumin free diet. They naturally could not live long, but those pigeons which received oryzanin lived three times as long as those without oryzanin. The daily loss of weight in the first case was three times as great as in the latter.

The exact role of oryzanin in the animal organism is unknown, but it is entirely clear that without it animal life is impossible, at least, for fowls, pigeons, mice and dogs. It may be noted that various authors have reported a variety of researches in an endeavor to sustain animal life for a long time on a diet of a mixture of pure foodstuffs. Most report failure, but Rohmann and Osborne have recently had somewhat better results. We must never overlook the influence of oryzanin, and Rohmann and Osborne would have obtained still more satisfactory results if oryzanin had been present in their mixture of foods.

Wheat, barley, bran, beans, millet, oats and green vegetables are able to preserve life in animals. It is not certain whether the active material in various food substances is always identical with oryzanin from rice bran or whether they constitute a class of substances. Milk, eggs, fish and horseflesh, as such or the alcoholic extract thereof, have shown little or no activity toward pigeons, but toward dogs and mice the behavior was somewhat different. The alcoholic extract of horseflesh was as active toward dogs as was oryzanin, but was found to be somewhat less favorable to mice. It is possible to keep mice healthy more than fifty days by feeding on polished rice with the addition of the alcoholic extract of horseflesh. An alcoholic extract of milk is also capable of maintaining mice healthy more than fifty days, while the residue is completely inactive.

Results summarized:

1. Fowls, pigeons, mice and some other animals when fed exclusively on polished rice steadily sicken, suffer profound loss of weight and finally die. These results are caused by the absence of a material in the polished rice that is absolutely necessary for the maintenance of animal life.

2. This indispensable material has been isolated in the pure state from rice bran and the discoverers named it oryzanin. Oryzanin plays an entirely special and quite as important part in the maintenance of animal life as albumin, fat, carbohydrate and salts. Without oryzanin the other materials named can exercise no physiologic function.

3. Every food which lacks oryzanin cannot support animal life for a long time.

4. Artificial food mixtures from albumin, fat, carbohydrates and salts without oryzanin cannot maintain animal life for a long time.

5. Dogs cannot exist upon boiled out meat and polished rice, and are completely starved after three to four weeks, but if the so-starved dogs receive 3 grams of alcoholic extract of rice bran or 0.3 grams of oryzanin daily, they are quickly restored.

6. The distribution of oryzanin in various foods is rather general. Since, however, polished rice in certain countries, as Japan, constitutes the chief food of the common people, it may often happen that a lack of oryzanin may have serious results, and this may also be true in prisons, armies, ships, etc., should the diet chance to be oryzanin free.

Addenda.

Decomposition products of raw oryzanin: Dilute mineral acids or alcohols readily decompose oryzanin, causing it to lose its peculiar properties. Oryzanin is a very unstable compound, and among the products of the decomposition of oryzanin the investigators identified an acid which they called Alpha, $C_{10}H_6O_4$, and another which they called Beta, $C_{18}H_{16}N_2O_9$. These yield the Diazo reaction, indigo coloration with phosphomolybdic acid and ammonia, and decol-

orize blue starch iodide solution. In addition to these two acids are found cholin and grape sugar, together with nicotinic acid.

Phytin belongs to the plant kingdom. It is a magnesium and calcium compound of inosite and phosphoric acid. Inosite has the formula, $C_6H_{12}O_6+H_2O$. It is not a carbohydrate, but a hexa-hydroxy-benzene, $C_6H_6(OH)_6+H_2O$. It is found in the muscles, liver, spleen, lungs, brain, suprarenals and kidneys.

TREATMENT OF THE MORPHINE HABIT.*

W. C. Douglass, M. D.,
Tampa, Fla.

Morphinism is by no means a simple disease, on the contrary, it is one of the most complex with which the practitioner has to deal.

Two questions concern us primarily when a morphinist presents himself for treatment. Is this person a fit subject for treatment? What method should be used? Too much emphasis cannot be laid upon the necessity of making a thorough physical examination of the morphine habitue before he is subjected to the withdrawal of the drug, or to the severe treatment necessary to promote this object. Cancer with pain or any intense pain that will be present after the desire for morphine has been removed, precludes the necessity for treatment to remove the habit. Old age with its degenerations, and myocardial degeneration at any age also preclude all strenuous treatment in the effort to overcome the habit. It should not be understood, however, that these patients should be allowed morphine ad libitum, for it is well known that these patients will, if allowed, take more than is necessary to relieve pain. It has been my practice to allow them a definite amount of the drug to last for a given period. It is given in combination with belladonna, nux vomica and cascara. In this way the patient gets a minimum amount of morphine, together with other drugs that the physician may see fit to give. The quantity can easily be kept at a minimum, and therefore mental deteroriation is less likely to occur.

Occasionally we see cases which can be entirely cured, where in the beginning it is least expected. The following case is illustrative: J. T. S., white male, age 65, widower, came to my office July, 1911. Complaint: Shortness of breath, cough, weakness and swelling of feet and ankles. Careful questioning elicited the facts that he had taken morphine for 25 years; began using it for relief of rheumatic pains, was taking 8 grains daily by mouth. Physical examination showed apex beat displaced to anterior axillary line in sixth interspace, systolic murmur at apex transmitted to axilla. Liver dulness extended two finger breaths below costal margin. Marked edema, of feet and ankles. I persuaded this patient to take his morphine in liquid form. I gave him his usual amount in combination with belladonna, nux vomica and cascara, also gave 20 minims of tincture of digitalis 4 times a day for several days. A reduction in the morphine was carried out over a period of two years until patient was finally cured. This case illustrates the necessity for care in selecting a method of treatment for each individual case. One of the rapid withdrawal methods of treatment would certainly have resulted disastrously. I am also lead to believe that had he continued the use of large doses of morphine disastrous consequences would have ensued.

Dr. H. E. Goetz, in a recent article in the *Journal of the A. M. A.*, calls our attention to the fact that degenerations of the kidneys, as Bright's disease, are a serious complication to contend with in attempting to treat the morphine habit. Certainly any acute inflammation of the kidneys would contraindicate the treatment. Also it should be recognized that if the elimination of the

*Read before the Hillsboro County Medical Society at Tampa, March 7, 1916.

kidneys is interfered with by disease, all eliminative methods used in the treatment will not be as effectual as when the kidneys are healthy. However, it must be borne in mind that nephritic morphine habitues are constantly aggravating their kidney condition through elimination of toxines produced by the improper metabolism which results from the prolonged use of morphine, and since most of the elimination in these treatments is carried on through the bowel, the danger and difficulty in withdrawing the morphine from nephritics is probably not very great. It must be urged, however, that a very gradual reduction with tonics and eliminants is better than the method of rapid withdrawal.

The most popular treatments at present are the Townes-Lambert treatment, the Pettey treatment, and the Sceleth treatment. Dr. Alexander Lambert described his treatment in the *Journal A. M. A.*, September 25, 1909. The treatment consists of the administration of compound carthartic pills and of blue mass to produce free catharsis and relieve congestion and inactivity of the liver. The other medicinal treatment is a mixture of 15 per cent tincture of belladonna, fluid extract of xanthoxylin and fluid extract of hyoscyamus. This latter is given in ascending doses until signs of belladonna poisoning appear.

Dr. Geo. E. Pettey, of Memphis, Tenn., uses the following cathartic mixture:

Calomel.
P. Extract Casc., aa gr. 10.
Ipecac, gr. 1.
Strych. Nit., gr. 1-4.
Atroph. Sulph., gr. 1-50.
M. Ft. Cap No. 4.

One of these capsules is given every 2 hours. In addition to this cathartic mixture, he depends on scopolomine in 1-200 grain doses, and spartein in 2 grain doses for his medical treatment.

Dr. Chas. E. Sceleth, who is medical superintendent of the hospital of the House of Correction, of Chicago, uses the following mixture:

Scopolomine, gr. 1-100.
Pilocarpine, gr. 1-12.
Dionin, gr. 1-2.
F. E. Cascara, m. 15.
Alcohol, m. 35.
Water, ʒi.

The dosage of the foregoing is varied, according to the amount of morphine taken. Before this mixture is begun, the bowels are emptied with salines.

The objects aimed at in the treatment of the morphine habit are to eliminate the morphine that may be retained in the different parts of the body, to stimulate the activity of all glands, especially the liver, and to combat the drug by a physiologic antidote, and while these objects are kept in view, to give the patient as much rest as possible and to support his circulatory system.

Severe prostration must occur with any rapid withdrawal treatment. For lack of time the technic of these methods will not be described. Suffice it to say that atrophine in some form is relied upon to combat the suffering entailed by withdrawal of the drug, while catharsis is carried to the point of tolerance. Too much stress cannot be placed on elimination. Morphine can be found in the urine of addicts as late as nine days after the last dose has been taken, and in the liver, brain and kidneys as late as fourteen days.

Sceleth very wisely says that if the cause which led to the development of the habit is still present after a cure has been made, these patients are likely to relapse; if the cause has been removed, the patients are generally permanently cured. Consequently, if the cause has not been removed, it should be a subject for the most careful therapeutic and, if necessary, surgical consideration.

As a rule it is necessary to have all patients who are to be treated for drug addiction in a hospital. In fact there are very few addicts who can be relied upon to cooperate in a gradual withdrawal treatment.

However, there are a few who will pursue the treatment to a successful termination.

When the Harrison law was first enforced, quite a number of addicts applied to me for prescriptions for morphine and cocaine. I have never prescribed one grain of cocaine to an habitue because, unlike the morphinist, the cocainist can get along without the drug, while the morphine habitue cannot be deprived of his dope without serious consequences.

Morphine habitues view with great skepticism the idea of being freed of their drug whether by gradual withdrawal or other method; therefore, it is essential to gain the confidence and cooperation of the patient before treatment is instituted.

It is certainly a fact that most drug addicts can be more successfully treated in an institution than as ambulatory patients. But for obvious reasons all addicts cannot or will not go to a hospital. Many of these I have treated in the following way: The patient is allowed morphine straight for a while to ascertain definitely how much is taken. After this is determined, he is given a two days' supply in combination with belladonna in a liquid form, with explicit directions as to how to take it. He is told to take a definite amount of the mixture at a definite time, e. g., a drachm at 8-12-4-8 daily. I see the patient every two days, and the amount of morphine is reduced, according to his condition. The belladonna plays a double roll. It lessens the desire for morphine, having a synergistic action, and also prevents the patient taking the mixture to excess, because of symptoms caused by excess of belladonna.

When this plan is followed, the physician can incorporate any drug in the mixture that the patient may need. Nux vomica is a valuable tonic and, being bitter, keeps the patient in ignorance as to how much morphine he is getting. Codeine or dionin is used with great advantage in these mixtures. Eserine also is a valuable drug. It contracts the pupil and favors peristalsis. As eliminants cascara and podophyllin are frequently used, also a dose of calomel about once a week.

There is a wide-spread belief among the laity, and even among the profession, that the morphine habitue should be treated by a definite formula—turn the crank, as it were, and cure the patient. Nothing could be farther from the truth. All morphine habitues should not be treated alike any more than should all pneumonia patients. We frequently see patients who will be cured by one method where another will fail. A writer in a recent issue of the *Journal of the A. M. A.*, referring to the treatments I have mentioned, very forcibly expresses my idea in the following words: "There is no halo, and there is no zodiacal sign, and there is no prayer that necessarily accompanies these particular combinations of drugs. It is largely the forcefulness of the men who carry out the treatment, and persistency in obtaining the object aimed at, through some antagonistic drugs, profuse purging and support of the patient through his trial.

The following is a summary of the cases of drug addiction that have come under my care. The results are not brilliant, but still encouraging:

Number of cases treated, 26.

Number of cases cured, 12 (gradual withdrawal, 6; rapid withdrawal, 6).

Number of cases voluntarily discontinuing treatment, 9.

Number of cases now under observation, 3.

Number of cases known relapses, 1.

Number of cases discharged for non-compliance, 2.

215 *American National Bank Building.*

HERNIOTOMY.*

SHELDON STRINGER, M. D.,
Tampa, Fla.

In presenting a paper to this body on the above subject, I desire to say that to attempt

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia, May 10-12, 1916.

to write on the various methods of operators and operations would be too extensive and tiresome a subject.

Moreover, I wish to say that I have nothing original to offer, for the only knowledge I may have is gleaned from the various authors of well-recognized surgical works. I will confine my remarks to the inguinal hernia of the oblique type, for it is the class of cases that we have to deal with more often than any other type. This hernia occurs in more than ninety per cent of all cases presenting themselves to the surgeon for relief.

Hernia is the protrusion of a viscus from its natural cavity, through normal or artificial openings into the surrounding tissue. To thoroughly treat hernia of any variety, we must be well acquainted with the anatomical parts that are before us. I know of no other operation in which the knowledge of the anatomy involved is so important if we wish to restore the patient to his normal usefulness and activity.

The sac is made by the pouching of the peritoneum, protruding through the internal ring in this variety: The sac is divided into a body, mouth and neck. The body lies in the canal; the mouth is the opening in the abdominal cavity; the neck, the portion between body and mouth. The neck of the sac lies external, to the deep epigastric artery and follows the course of the cord through the inguinal canal.

As to the cause of hernia: More males than females are afflicted with this condition, due probably to the former leading a more strenuous life than the latter. Others mention such causes as the following: Occupation, obesity, pulmonary affections, trauma and anything that will increase intra-abdominal pressure; also heredity is mentioned by some as a predisposing cause. In the diagnosis of hernia it is usually a very easy matter, particularly when we have swelling increased by coughing, lifting, erect position or in any manner of straining.

Reduction causes the mass to disappear; also by percussion we note either dullness or tympany, due usually to intestines or mesentery. Sometimes we are confused by an enlarged inguinal gland, but, if we remember in adenitis, we have tenderness due to infiltration of tissue with products of inflammation and at the same time not being able to reduce the swelling, along with a history of short duration, we will be able to probably eliminate hernia.

Other conditions that may confuse one are, hydrocele, variococele, cysts and saphenous varix, but with proper consideration of the usual cardinal signs and symptoms of hernia, we should not often make mistakes in diagnosis.

The prognosis of hernia without some means of interference either by palliative or radical treatment is not favorable for cure. The prognosis in radical treatment of this condition is exceptionally good, everything being equal, the percentage of mortality being from two-tenths to five-tenths per cent and upwards of ninety-five per cent cures. This brings us to the consideration of treatment of such cases. It is reputed that more than a million trusses are sold annually in the United States. This is a most important factor for our consideration, for it behooves us to educate the public that in selected cases, the radical treatment is practical, safe and conducive to a happy and unhampered existence so far as relates to the hernia. The treatment of deformity is divided into palliative and radical.

I will not dwell upon the palliative or truss treatment further than to add my condemnation for such management of a case when there are no contraindications for the radical operative relief, for such palliative measures seldom effect a cure except in the very young.

The only cases that I consider fair subjects for palliative treatments would be in cases of irreducible hernia in the very stout, cases of grave constitutional diseases and the very aged.

The radical treatment consists in remov-

ing the sac, transplanting or not transplanting the cord and in general re-arranging the parts best adapted for each and every case. The procedure that I use is the Bassini operation. There are other operations devised by different excellent surgeons, but I think that I may safely say that the above method is practiced more often with better results in most of the clinics of this country. As everyone knows that this method consists in the transplantation of the cord from its old to its new bed, hence I will not describe the technique.

In large scrotal hernia's one should always be careful to examine for the bladder. Frequently I have come near cutting the bladder by not being sufficiently inquisitive. I have also found the appendix adhered to the sac in some of my scrotal cases.

In regard to the suture material of this operation, I do not think that as much stress is laid upon this as there were at former times, due to the fact that absorbable suture material is more safely and easily obtained. Any absorbable 20- to 30-day catgut sutures are chiefly used. Without too much tension, correct approximation with absence of fibre straining and infection, the results should be all that is desired. I usually keep my patients in bed for three weeks, not allowing them off their backs for that time, as I wish to give nature ample time to repair and accommodate herself to her new surroundings. By so doing I give the patient the benefit of every possible recuperative power, instead of benefiting the surgeon's reputation of getting his patients out of bed quickly.

The sequelæ to a herniotomy may be as follows: First, wound may not unite by first intention. Second, diffuse general peritonitis may occur. Third, the reduced gut may become gangrenous. Fourth, the reduced gut may not resume its normal function, but still not be gangrenous, but injured. Fifth, the reduced gut may remain partially paralyzed for a few days and then return to functionating. Sixth, cases of acute mania may develop and sometimes prove fatal.

POLIOMYELITIS OR HEINE-MEDIN'S DISEASE.*

G. H. Benton, M. D.,
Miami, Fla.

In the hasty preparation of this paper I shall not attempt to cover other than certain aspects of poliomyelitis, scarcely touching on either the transmission of the disease or of its treatment. I have both quoted and copied freely from all of the current literature of the day, and the paucity of facts establishing the transmission of the disease, does not warrant one in entering into voluminous discussions which are in the current print, but which have not demonstrated anything valuable up to the present time, and literature of this kind fully covering the subject, I think, comes to the office of every physician almost daily through the mails from very reliable sources.

I am especially desirous of impressing the members of this society with the multiple forms of the disease so considerably dissimilar from the spinal type as to escape recognition, excepting when one is fully conversant with all the multiple forms.

I wish to give credit to the following writers and authorities from whose writings I have freely copied and quoted in this paper: Monograph Medicine, Alfred Gordon, Llewelln F. Barker, C. H. Burr, H. M. Elsner, M. Howard Fussell, James H. McKee, Wm. H. Wells, Wade H. Frost, of the U. S. P. H. S., and others.

The term Infantile Paralysis, or even Anterior Poliomyelitis, is to my mind not free from at least misleading suggestions, for certain palsies occur among infants and children which are in no way dependent upon the toxic virus Flexneria-Noguchii, while this virus produces many pathological

---

*Read before the Dade County Medical Society at Miami, September 21, 1916.

changes other than those demonstrable in the giant cells of the gray matter of the anterior horn of the spinal cord, and again the infection is not by any means confined to infants and children, because both during epidemics and among sporadic cases the clinical picture is readily recognized and diagnosed in adults.

While the disease has long been prevalent in this country and abroad, yet much knowledge has been accumulated since the studies of Heine, of Cornstadt (1840), who called it "Infantile Spinal Paralysis," following which Stumpell recognized cerebral paralysis which he concluded must have the same etiology as Heine's disease, while in 1890 the greater advance was recorded during an epidemic in Sweden by Medin, who recognized that while the spinal type predominated involving the anterior cells and lower motor neurons, also recognized Cerebral, Bulbar, Polyneuritic and peculiar Ataxic forms of the disease which seemed to be due this identical infection. Following this again Wickmann's studies of the epidemic in Sweden in 1905-06 further extended our knowledge through his demonstration of the existence of a meningitic form, and of a form following the course of Landry's paralysis and also the abortive form, which form in all probability may play a very definite role in the transmission and dissemination of the disease. Hence, to Wickmann is due the honor of founding the epideminology of the disease.

Charcot was probably the first to definitely study the pathological anatomy of the disease and demonstrate the changes in the anterior horn cells, whose investigations have been followed by a more intensive study of Landsteiner, Popper, Leiner, Wiesner, Levaditti, Romer, Flexner, Lewis and others, who are able to demonstrate a filterable virus which is capable of communicating the disease from one monkey to another, both by intraperitoneal injections of the macerated cord of an infected monkey and from the juices of the nervous system of an infected monkey after passage through a Bakefeld filter and injected into a healthy monkey, and also, finally, by culture in ascitic fluid agar media, with all of which you are already familiar.

Conclusions of the recent studies plus, of course, the already established findings of former observers, lead us away from the suggestion received from the term Anterior Poliomyelitis from the fact that much more damage is incurred from the same virus outside of or independent of the incident of the anterior horn cells, and were we to conceive the full picture of the disease as included under the term Heine-Medin's disease, we might be less liable to some confusion in diagnosis. The appearance of the paralysis is the first certain diagnostic sign accepted in sporadic cases, and without such laboratory apparatus and technic as is quite impossible to the general practitioner of the present time, little evidence is obtained of the blood and spinal fluid. We must, therefore, depend upon the clinical picture for the evidence upon which to make a definite diagnosis, and this clinical picture may be a very varied one in the multiple syndromes produced through the infection by this virus, as the later studies signify much more extensive pathological changes than the term Anterior Poliomyelitis implies; in fact, the evidence is quite conclusive that the involvement of the anterior horn cells appear more prominent because of the resulting paralysis, while the incident of their more extensive degeneration is probably solely due to the fact of their extremely rich blood supply, for a peculiarity of Heine-Medin's disease signifies an acute perivascular inflammation with lymphocytic infiltration, not in any way limited to the anterior horn cells, but prominent there as a rule, and involving also arteries and veins of the gray matter including both the posterior horns and the spinal ganglia in the nervous system. The lesions are described in the litera-

ture of the day as widely disseminated meningo-encephalomyelitis. The infection spreads through the perineural and perivascular lymph vessels. Flexner, Peabody and Draper, in their report on the visceral lesions of human cases, describe the swelling of the mesenteric lymph glands, of Peyers' patches as well as the solitary follicles of the intestines, and remark on the surprise that such a disseminated infiltrative lymphocytic inflammation, involving so many tissues throughout the body, should in the majority of cases give rise to a clinical picture simulating a "System Disease" of the spinal cord. Other authors (Tuley in particular) describe the regular enlargement of the superficial glands of the body, the tonsils, the thymus and spleen, with cloudy swellings in other organs. Fussell describes the morbid anatomy as follows: "The meninges are edematous and injected, the brain and cord appear also edematous, while the gray matter is swollen; the first changes in the meninges most noticeable on the anterior part of the cord is an acute interstitial meningitis, with small celled infiltrations about the vessels of the meninges and also minute hemorrhages. These cellular exudates, hemorrhages and edema dependent upon the vascular changes are the first effects of the virus preceding the nerve changes which are partly vascular; they may also be toxic and partly due to anemia."

If the hemorrhages and exudates are absorbed soon enough, the cells will regain their power, for the nerve cells either degenerate or recover.

The posterior root ganglia lesions are of constant occurrence and the histological changes are similar to those of the cord itself, which is an infiltration of the small round cells in the lymphatic spaces surrounding the vessels which enter the ganglia from the meninges, followed by a more general, diffuse exudation of the cells, with degeneration and necrosis of the nerve cells, and finally the entrance of the polymorphonuclear leucocytes into the necrotic cells and the removal of the disintegrating cells by neurophages. The suggestion has been made that these lesions in the sensory ganglia may in part at least account for pain which is such a constant feature in the acute stage of the disease, but another element in the production of pain is the cellular infiltration which is found along the nerve roots.

Fussell remarks: "The lymph glands and the tonsils are enlarged, the spleen often enlarges, the changes are much like those of typhoid fever; this is particularly marked in the liver. The disease must be regarded as a generalized process which effects parenchymatous organs, lymphoid tissue and more especially the nervous system."

Different authors and writers describe from five to nine distinct forms of Heine-Medin's disease, which appeal to me as a most potent factor in the recognition and diagnosis of the malady. The spinal form of all is said to be the most common and the most easily recognized, yet it may readily occur to one's mind that if the abortive form were or could be fully recognized in every instance that it might amount perhaps to fully or even over 50 per cent of the total cases occurring, for the abortive form either obtains without any recognizable symptoms, or there is the instance of natural personal immunity, which undoubtedly exists in certain individuals, against the Flexneria-Noguchii virus as there is against diphtheria and other similar infectious factors.

Following Romer, we recognize the following types in Heine-Medin's disease: Abortive, Spinal, Landry, Bulbar and Pontine, Cerebral, Ataxic, Polyneuritic, Meningeal, and still further Elsner recognizes and describes a chronic type.

Wickmann's statistics show 1,028 cases thoroughly investigated by him, of which 157 (15 3-10%) were of the abortive type, in which type the prognosis is universally

favorable. The toxins were either less virulent or the resistance of the patient higher or the infiltration does not progress beyond the stage of transient edema without destructive cell infiltration; hence, the lower motor neurons escape and there is no paralysis. It is further conceived and stated that there are probably many abortive cases without any recognizable symptoms whatever. Where there are symptoms, however, the most prominent are fever, pain in the head and back, very marked sweating, tonsillar invasion, bronchitis; these yield, however, after a few days or even less time, or there may be all the other manifestations of the prodromal stage of the more severe cases.

Muller describes under the head of abortive cases those with a transitory paralysis of a single group of muscles, in which cases there may be evanescent loss of tendon reflexes. These he characterizes as "Rudimentary Poliomyelitis" and places the incident of abortive cases much higher than does Wickmann, stating that 50% is not too high a percentage of abortive cases during an epidemic.

The Spinal type is regarded as the most prevalent and especially characterized as the "Paralysis of the Morning," which is usually the first positive symptom upon which ordinary diagnosis can be affirmed, and many times is not suspected until the appearance of the paralysis. It is a complete motor paralysis, is flacid, may be extensive or confined to one or two groups of muscles, often irregularly distributed, may be as extensive as a triplegia, or even a quadraplegia, where two or more extremities are involved one usually suffers more than another, the peroneal and quadriceps muscles are oftenest involved and are the most liable to retain permanent injury, here the cranial nerves and the sphincters are rarely but occasionally involved. The sensory symptoms are due to the associated cellular infiltration of the meninges of the sensory branches and are usually of comparatively short duration. Muscular atrophy is the after-result due to the destruction of the cells controlling nutrition of the lower motor neurons, and in the unregenerated neurons soon appears the reaction of degeneration. This reaction, however, if present early in the case, does not preclude the possibility of final restoration of function. Its persistence after six to twelve months leaves no reasonable hope, however, of final recovery. Resulting deformities, kyphosis and scoliosis may be prevented by proper treatment, contractures remain, however, and can only be overcome by orthopedic treatment.

Landry type—There is a tendency among the leading neurologists of the day with the most extensive experience to feel that experience rather justifies one to conclude that Landry's ascending paralysis is identical with Heine-Medin's disease, there being another form of the disease. Of the first there is a characteristic ascending paralysis usually beginning in the lower extremities ascending and within a few days, three to five, involving the diaphragm, respiratory muscles, finally reaching the pneumogastric and glosopharyngeal nerve centers, producing spasm of the glotis, air hunger and death. Aspiration pneumonia is not uncommon among these cases, the majority of the patients die between the third and fifth day.

In the second form there occurs during the first twenty-four hours an ascending paralysis, the respiratory muscles being less involved and the pneumogastric and glosopharyngeal nerve escape, but the upper extremities are paralyzed before the end of the fourth day. The patient may live and continue paralyzed, but such cases are rare. Elsner reports one—a student who studied law entered the profession and made a brilliant success in spite of the persistence of a complete quadraplegia.

Bulbar and Pontine type.—Medin first described this form and it included the involvement of the cranial nerves in the motor

paralysis. Sometimes this is a concomitant with the spinal form, but this paralysis is more than apt to disappear within a few days or months—the facial is oftenest involved, the abducens and motor oculi are rarely included and very occasionally the optic nerve may be involved.

Cerebral type, Polioencephalitis.—This is really a mixture of the spinal form and an encephalitis dependent upon the disseminated invasion of this virus. The original description of this form was by Strumpell, whose observations have since been confirmed by Medin. This form included hemiplegia with well marked trophic changes in children. Developmental anomalies contractures, accompanied by the usual abduction of the arm, with flexed elbow, well marked clubfoot (pes equinovarus). The reflexes in these children are apt to remain abolished, in the adult they may be present or exaggerated, Babinski may be present or absent, in children athetosis may develop. Cerebral polioencephalitis may also involve the cerebellum and its paths, the paralysis due to this form may improve, but complete return of function is out of the question; children may retain their mental faculties, but go through life hemiplegics.

Ataxic form. — Medin, Wickmann and Zappert observed symptoms in some of their cases which after the prodromal period resembled Friedrich's Hereditary Ataxia. In these cases, the prognosis of any restoration of function is unfavorable.

Polyneuritic form.—These cases present all the features of a multiple neuritis, they are most apt to arise during epidemics characterized by a predominence of the more common forms of the Heine-Medin's disease and are affirmed by Medin to be due to the same virus which cause all other types; they are associated with sensory symptoms and tender nerve trunks, and frequently give evidence of meningeal inflammation, including Kernig symptom; the prognosis, however, of this form is usually very favorable, though the recovery may be slow.

Meningitic type.—This form of the disease presents early many of the symptoms of an acute leptomeningitis arising in the midst of an epidemic of Heine-Medin's disease, manifesting the Kernig symptom, followed by well-developed paralysis of the usual characteristics of infantile paralysis. Netter reports 29 per cent of his cases of the meningitic type.

And finally, there is described a chronic type by one or two writers as follows: There is a group of cases of unknown origin occasionally following trauma, in which there is a sub-acute or chronic paralysis closely resembling the spinal type of Heine-Medin's disease; these cases are found in adults without the acute period of the epidemic form and resemble, when fully developed, the spinal type of muscular atrophy. They differ from progressive muscular atrophy because of the early paralysis and the atrophy which follow it; there may be exacerbations during which further paralysis develop, involving separate groups of muscles in which atrophy follows, with the flacid paralysis. There is loss of reflexes and the reaction of degeneration.

In occasional cases there may be marked improvement of all symptoms. In a number of cases the exacerbations lead to progression of the atrophy and with ascending symptoms and increasing weakness and the patient dies. These cases represent degenerative processes in the anterior horns, and are often difficult to differentiate from progressive muscular atrophy, although as already mentioned, the early flacid paralysis offers a distinction; also the atrophic changes are secondary, never primary; the lower extremities are usually involved first, though there may be a monoplegia and later extension to other parts.

The prognosis is less favorable than in progressive muscular atrophy, for the disease when progressive ends fatally in from one to four years.

In conclusion, the point I want to make most clear is a competent picture of the multiple forms of the disease, so that they may be recognized as Heine-Medin's disease, and to distinctly impress each mind with the disseminated pathology concurrent in all forms, and again it is suggested by the most eminent writers of the day that the abortive forms which present few symptoms, if any, and no paralysis, or only transient paralysis, most likely occur almost exclusively among adults. It is not unlikely to be an important factor in the peculiar dissemination of the disease. One thing further in reference to the treatment—the leading neurologists are impressed with the necessity for continuous and continued rest for the paralyzed muscles —absolute rest for two, three or four months, after which may be used a light massage with electricity. These are the only facts which I think need to be especially mentioned, for so much as is known of the treatment valuable in those cases is included in the literature of all textbooks.

Townley Building.

ALCOHOLIC INSANITY, WITH REPORT OF A CASE.

D. C. Main, M. D.,
Welaka, Fla.

The effects of alcoholic drinks and the others they contain upon the nervous system of man are many and varied.

Besides the alcoholic deliria we have mental disturbances simulating a host of other conditions: mania-like conditions, melancholias, epilepsy, stuporous conditions, morbid impulses, progressive dementias, chronic persecutory insanity counterfeiting paranoia, etc.

The essential characteristic of all these is to be found in the progressive weakening of the mind.

The chronic alcoholic shows at the autopsy table the secondary degenerative effects of the drug in the wide-spreading arteriosclerosis; chronic thickening of the meninges, evidences of retardation of the lymph flow which have induced cirrhotic changes not confined to the brain, but invading organs essential to somatic life, the kidneys, stomach, liver and pancreas. The effects of this drug are not confined to the transgressors themselves but the results are passed on to the next generation in the form of lowered vitality, stunted growth, mental and moral imbecility, etc.

It is interesting to note the wide difference in the degrees of susceptibility to the influence of alcoholic drinks one meets with.

One man may stand a daily allowance of a quart for weeks and months before he is overtaken with mental and physical collapse; while his neighbor may have a violent delirium from a few glasses of beer or wine.

This difference is largely a question of the degree of stability of the nervous tissues, inherited or acquired.

Maniacal forms are more frequent than the melancholic, and most violent and destructive acts are sometimes committed while in this condition.

In alcoholic persecutory insanity, known as alcoholic pseudo-paranoia, the period of incubation may be short or a process of gradual evolution, and in this connection I beg leave to report a case now under observation.

M. J., 40 years of age, negro above the average intelligence. Had always been a moderate drinker with rare sprees. Father, mother and one brother died with some mental trouble. Has the usual superstitions of his race.

About three years ago he began to act queerly at times and imagined that fellow employees were working charms on him, so quit his job and remained at home and farmed.

Had headache, disturbed sleep and hallucinations of sight and hearing.

Several times drove rapidly home from his work in the field a short distance away, claiming to have seen people after him to kill him (the writer among them), and on

arriving home would call his wife to come to the gate to see them also. He often whistled in answer to whistles around him.

Thought people were trying to poison him through his food and several times came to the office for treatment for this.

People tried to poison him through his pillow at night, and he often smelled tobacco around the house, though neither he nor his wife used it.

Imagined people followed him around in the woods to get his money, but he always circumvented this by going a different way.

Always kept gun and shells by his bed for protection until they were taken out of the house.

Sees through plans people have made to encompass his downfall and imagined his lodge were all against him. Visions and hallucinations are always present and to a great extent of a sexual type.

The hallucinations and delusions foster irritability and roughness of manner and action whereas formerly he was quiet.

It is generally considered that this form of alcoholism is one of the most dangerous types of alcoholic insanity, yet so sane is he on every subject that he has twice fooled a court of inquiry into his mental condition by reason of the fact that they failed to get started on the right track in questioning him.

The course in these cases is progressive, the mental deterioration precluding any hope of recovery, and the treatment consists of isolation in an asylum until a terminal dementia ensues, at least.

PITUITRIN.

G. C. Kingsbury, M. D.,
Largo, Fla.

I was so elated in my recent experience with pituitrin that I consider it my duty to report these cases, hoping some physician and patient may enjoy the same benefit.

I was called November 29, 1915, to attend Mrs. M., and found a history of pregnancy at about five and a half months. She stated that on November 22d she noticed an unusual discharge which continued with some gradual increase, and becoming worse sent for me. I found three-fourth inch dilation, cord prolapsed and elbow presenting. She had had no pains at any time. At 2 p. m. I gave pituitrin and at 2:10 she had slight pains which increased in severity till 2:45, then moderate till 3:15. At 3:00 I found one and one-half dilation with arm in vagina. I dilated manually, but pains becoming less, I gave pituitrin at 3:50; pains became strong at 4:05 and increased to 4:30. I found one-third dilation with body presenting. Pains were very strong and delivered without turning at 5 p. m., becoming a complete breech delivery, the child being doubled or flexed which certainly is very rare. Placenta delivered at 5:15.

The points of interest are labor in progress from November 22d to November 28th, considerable discharge, not much dilation, cord prolapsed, elbow presenting and no pains, but with pituitrin, pains were immediate, and two injections, no doubt, saved hours of waiting and perhaps turning. I had not read of use of pituitrin under these conditions.

I was called December 20th to attend Mrs. W., pregnant six months. I examined at 5 a. m.; had been but little pain, no discharge, but membrane bulging and prominent and slight dilation. At seven I ruptured membrane and waited two hours for pains. At nine I dilated manually and she had some very slight pains, breech presenting. At 10:50 I gave pituitrin and in three minutes pain followed; child delivered 11:15.

The points of interest are waiting long enough to know nature will not act, then getting such prompt action from pituitrin.

I was called December 25th, 2:30 a. m., to attend Mrs. L. Found full term pregnancy and very feeble patient. She had some pain at 10 p. m., 24th, but not much. At 2:30 I found three-fourth dilation, at 5:00 slightly

more dilation, very weak pains and at 10:50 having had but slight pains and one-third dilation, I gave injection of pituitrin and at eleven very hard pains came on, the child being born at 12:30. I am confident in this case there would have been a very tedious, protracted, exhausting labor and probably forceps delivery. I consider that we have in pituitrin a most valuable aid in our obstetric work and hope others may be as well pleased as I am.

I would say, in warning, we should have a dilated or dilatable os before using it as pains follow so quickly and surely that uterine rupture could easily occur.

CALOMEL.*

L. S. Oppenheimer, M. D.,
Tampa, Fla.

Calomel has a vast army of skeptical unrelenting enemies, as well as a legion of credulous enthusiasts.

Indeed many practitioners handle it with misgivings and trepidation.

This conservatism is really due to the obscurity of our knowledge concerning its limitations and accounts in a great measure for the divergence of opinion of medical men about its safety and its virtues.

One man gives one grain hesitatingly, the other fears to give less than three, still another daring doctor delights in 50-grain doses.

The belief that calomel is converted into the bichloride is no longer entertained. This conversion was said to be caused by hydrochloric acid, chloride of sodium, other alkaline chlorides and certain acidulous drinks.

All researches have indicated that it is not changed or acted upon until it reaches the alkaline fluids of the intestines.

There are many varying opinions as to what chemical changes actually take place there.

Rabuteau thinks it is decomposed into fine particles of metallic mercury. Schaefer claims that mercurous and mercuric oxides are formed. Others believe the fatty acids in the intestines dissolve it.

Meyer and Gottlieb, who have studied its action very thoroughly, state: "By contact with the tissue fluids calomel is transformed into soluble mercuric compounds, probably albuminates, which, without causing any local toxic action, are absorbed very gradually. In the mucous membranes of the mouth and intestine this action causes a stimulation of glandular secretions and inhibition and by its disinfecting action combats to a certain extent the harmful bacterial flora of the intestines."

It is unknown in what form mercury is absorbed and circulated in the blood. When it is injected hypodermically in an insoluble form, the leucocytes take it up and carry it off as they do any other foreign insoluble body, and it is quite possible that they may take it up in the same way from the alimentary canal.

The most immediate action of calomel is on the intestines, where it has an irritant and stimulating action on the epithelium and the intestinal glandular secretions. When absorbed in sufficient quantities, it also has a stimulating action on the secretion of the salivary glands and on the kidney.

While it is popularly supposed that calomel stitmulates the secretion of bile, there is no experimental evidence to show that it acts directly on the liver at all, but the possibility of such an action is not absolutely denied. Meyer and Gottlieb state: "That the bile becomes more concentrated as a result of the dehydration which results from catharsis with calomel." This would indicate that it would have some direct influence upon the liver itself.

It is probable that calomel has some action as an intestinal disinfectant. Schamberg's investigations (1914) showed that calomel has a high germicidal power. In his

---

*Read before the forty-third annual meeting of the Florida Medical Association at Arcadia May 10-12, 1916.

experiments he found that 1-1200 grain (0.05 mg.) of calomel was sufficient to sterilize 0.1 c.c. of staphylococcus aureus, B. typhosus or B. coli in 10 c.c. of bouillon. His experiments, however, did not extend to its action in the intestines.

According to Schamberg, the action of calomel on the kidneys is supposed to be a direct stimulation of the renal cells, primarily of the tubules. With non-toxic and mildly toxic amounts apparently only the tubules are affected, with larger amounts changes are also found in the glomerules.

The toxicity of calomel depends upon the amount of mercury absorbed, not upon the amount of calomel taken into the system. The rate of absorption is slow (Schamberg found the rate to be only 1.4 per cent per day), and consequently if the calomel is removed quickly from the intestines very little is absorbed.

There are probably certain drugs, foods, personal idiosyncrasy, etc., affecting the chemical conditions in the intestines that would influence the rate of absorption for calomel, but as noted above, the chemical changes involved are as yet so little understood that the means of influencing them cannot be determined with any certainty.

If it is true that the alkalinity of the intestinal fluid is favorable to the decomposition and absorption of calomel, alkaline menstrua should hasten the process; Schaefer and Patein support this view, and the writer's observations bear this out.

In one case, some years ago, where two 10-grain doses of calomel and soda had been administered 6 hours apart, chloride of ammonium in 10-grain doses given every three hours, next day was promptly followed by very severe salivation. Since that time ample opportunity has been given to verify the power of the various alkaline salts given in conjunction with calomel.

Salivation is invited by constipation, slow elimination, small and medium doses, bowel paresis, co-administration of the iodides.

Purgative doses should be given if the bowels are not active, accompanied or followed by a cathartic, unless for special reasons the latter is to be withheld.

Large doses are not to be given with an alkaline salt, small ones may always be.

The small quantities of sodium bicarbonate usually accompanying calomel are neutralized by the stomach juices, except when taken while the gastric glands are inactive. To be effective more soda is required.

Small, repeated doses of calomel allay the nausea and vomiting of children.

Doses of 100 grains followed by a brisk cathartic is a very common practice by many physicians. The writer has observed several remarkable and prompt results in dissipating a general dropsy with these protean doses.

The indications for their administration are thus expressed in a letter from a progressive up-to-date Jacksonville colleague:

"I have given 100-grain doses of calomel dozens of times. Have given it to the same patients repeatedly at intervals of a few weeks or months. I give these doses in cases of anasarca, regardless of the cause, and have never known it to salivate or cause an undue amount of depression. Salt is excluded from diet on days of treatment. It has almost invariably relieved the effusion more completely and quicker than any other treatment of which I know.

"In one case of pronounced syphilitic heart lesion 150 grains were given on two occasions, with the happiest results. As a hydragogue cathartic in above cases it has no equal."

In the common bowel disturbances of infants some practitioners prefer the small repeated doses, others strongly advocate large ones. In bacillary dysentery castor oil is more reliable. All stools should be tested with blue litmus and acidity corrected.

In conclusion, the writer begs to admit that he lays no claim to having introduced

material, new personal evidence about calomel, but has been prompted to present this paper in the hope of clearing up some obscurities in the minds of many regarding its usage.

PROPAGANDA FOR REFORM.

Why Glycerophosphates? — The glycerophosphates are split up in the intestines into ordinary phosphates and absorbed and utilized, if they are utilized at all. There is no evidence that glycerophosphates have any pharmacologic action to warrant the belief that they are of use as therapeutic agents. The belief in their value is kept alive by the promotion of certain proprietary mixtures. The glycerophosphates will be continued to be manufactured until physicians refuse to prescribe them. A manufacturer has even substituted glycerophosphates for the potent yellow phosphorus in his elixir of phosphorus, nux vomica and damiana and, so his chemist reports, physicians continue to prescribe the proprietary the composition of which has been altered. (*Jour. A. M. A.*, April 15, 1916, p. 1205.)

Emetin Hydrochlorid Variable. — It should not be taken for granted that because a drug bears the name of a definite compound it is true to name and pure, and therefore trustworthy in its action. This fact has recently been demonstrated in regard to emetin hydrochlorid. Two cases in which the administration of emetin hydrochlorid produced symptoms of poisoning (one terminating fatally) at the Johns Hopkins Medical Clinic led to an investigation by R. L. Levy and L. G. Rowntree, in which the emetin hydrochlorid preparations of five pharmaceutical houses were used. This investigation led to the conclusion that the products supplied as emetin hydrochlorid are variable in composition and in toxicity to a degree which constitutes a serious danger. It behooves physicians to insist on some declaration from the firm supplying emetin hydrochlorid as to its purity and as to the standard employed. Levy and Rowntree emphasize also the fact that emetin hydrochlorid medication itself is not an innocuous procedure. To avoid the toxic effects of emetin, the dosage should be carefully adjusted for each individual and the treatment should be given in courses at intervals of several days or a week. The subcutaneous method of administration is to be preferred. (*The Archives of Internal Medicine*, March 15, 1916, p. 420.)

Cactus Compound Pills—A pharmaceutical firm makes Pills Cactus Compound (Heart Tonic), each of which is said to contain: "Cactus grandiflorus ½ grain, Sparteine sulphate 1-40 grain, Digitalin, pure (German) 1-125 grain, Strychnine sulphate 1-500 grain, Glonoin (nitroglycerin) 1-500 grain, Strophanthin 1-5000 grain" The combination is irrational and the dosage of the individual drugs, in most instances, absurdly small. Every one of the ingredients except digitalin may be disregarded either because of inertness or because of the small amount present, and the treatment then becomes one of digitalis. The selling name of "Cactus Compound" is a misnomer as the activity of the pill is that of the small dose of the digitalis glucoside. The pill is an illustration of how worthless drugs are perpetuated. At one time it was thought that cactus had therapeutic value. During that time many "specialties" and proprietaries bearing its name were put on the market. Although the drug is now known to be worthless, these specialties continue to be sold. (*Jour. A. M. A.*, April 29, 1916, p. 1387.)

Genoform.—Genoform, advertised as a remedy for rheumatism, gout, neuralgia, etc., is marketed with the claim that it is split up in the intestines into salicylic acid, acetic acid and formaldehyd. The statement of composition is too indefinite to permit any real insight into its possible reactions, but even if formaldehyd is liberated in the intestines, Genoform could not have the properties which are claimed for it. (*Jour. A. M. A.*, Feb. 26, 1916, p. 676.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.

Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.

Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.

GRAHAM E. HENSON, M. D. ..... *Jacksonville*

ASSOCIATE EDITORS.

THOMAS TRUELSEN, M. D. ..... *Tampa*
J. K. SIMPSON, M. D. ..... *Jacksonville*

COLLABORATORS.

RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa ..... *Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville ..... *Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville .... *Eye, Ear, Nose and Throat*
I. L. KIRBY-SMITH, M. D., Jacksonville ... *Dermatology*
E. G. BIRGE, M. D., Jacksonville ..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.

E. W. WARREN, *M. D.*, President ..... *Palatka*
JOHN A. SIMMONS, M. D., First Vice-President ..... *Arcadia*
E. VAN HOOD, M. D., Second Vice-President ..... *Ocala*
JOHN LONG, M. D., Third Vice-President ..... *Lake City*
GRAHAM E. HENSON, M. D., Secretary-Treasurer ..... *Jacksonville*

EXECUTIVE COMMITTEE

R. H. MCGINNIS, M. D. ..... *Jacksonville*
JOHN MACDIARMID, M. D. ..... *DeLand*
R. N. GREENE, M. D. ..... *Chattahoochee*

COUNCILLORS.

First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920

Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917

Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917

Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville .. 1918

Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala .. 1919

Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa 1919

Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna 1918

Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920

Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918

Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia 1920

Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West 1917

COMMITTEE ON SCIENTIFIC WORK.

F. C. MOOR, M. D. ..... Tallahassee
C. D. CHRIST, M. D. ..... Orlando
F. F. FERRIS, M. D. ..... Apalachicola

Next Meeting — Atlantic Beach — May, 1917

THE VOLUSIA COUNTY MEDICAL SOCIETY.

One of the most wide-awake units in the State Association is the Volusia County organization.

THE JOURNAL is pleased to call attention to one of their activities which might well be patterned after by other organizations throughout the State. A series of articles on matters pertaining to public health has been prepared by the Society to be published in their local papers under the auspices of the organization. The following article on "Feather Pillows," comprising one of the series, is timely and of general interest.

"Feather pillows are quite a departure from conditions which must have surrounded the primitive man. Surely the adoption of the feather pillow must have been an event suggesting luxury and free indulgence in expensive rarities at one time! Now they are considered a necessity. We take them as a matter of course. We have big fat ones and small limp ones. Their weight depends largely upon the quality of feathers inside. Have you ever stopped to think what the condition must be of the unseen confusion within a pillow tick? Have you ever stopped to think how much carbon dioxide from a thousand mouths may have been diffused into a pillow? Have you ever wondered how frequently pillows are renovated as they should be and how well it is done when it is supposed to be done at all? Have you ever noticed how musty and oily they may smell in hot weather? Have you ever thought of how they increase one's temperature in hot weather? Have you ever contemplated on how many generations may have used those feathers before you?

"Do feather pillows seem really sanitary when we reflect upon all this and in addition permit ourselves to remember how often they are used in illness and simply shaken up and put in a case and forgotten? Large pillows of any kind are objectionable because

of round shoulders they produce. Large pillows allow just that much more sinking of the head into the center and contribute to moisture about the head and ears which in turning the head invites congestion if one is in a draught or in a cool room. This moisture is unnecessary and invites catarrh of the head and ears. Persons with ear defects should remember this and avoid feather pillows. Babies should never have pillows except as fancy things to adorn a crib and adults will do well to discard anything but small feather pillows and what is better adopt hair pillows. Hair pillows are much more sanitary and after one gets used to them better in every way.

"No doubt the primitive man slept with a stone for a pillow. Civilized man is climbing far from nature in many ways and consequently invites complications. Hair pillows are plenty soft and certainly much more sanitary and do not cause the head and neck to perspire. They have no stuffy odor and can be easily sunned and aired because they are not so compact and need not be large. We can continue to use clean feathers for the opulence so necessary (as a result of custom) on a well-made bed, but we should adopt hair pillows for actual use, health and reason. Hair costs more, but a small hair pillow very little more than the average feather pillow in use. In this climate we have more reason to adopt the hair pillow than perhaps in colder countries. Fresh individual pillows should be the rule in cold climates if feathers are used, and in the South fresh individual hair pillows would be a wise departure for particular persons."

The Journal takes this occasion to congratulate the Volusia County Medical Society upon the good work they are conducting.

THE SACRIFICE OF THE CHILD TO CARELESSNESS.

As winter arrives with unprotected open fires, hot stoves and burning brush heaps, there occurs a marked rise in the number of deaths from accidental burns. It is conservative to say that ninety per cent of these deaths are the results of carelessness of adults, and most of the victims are helpless infants and children. In Chicago during the past fortnight two deaths occurred as a result of an older child setting fire to a younger one with a lighted candle; three deaths and one serious burning resulted when a child pulled over a pot of boiling water, coffee and potatoes, respectively; two serious burnings and one death followed "playing with matches." When death does not occur, the result is usually an extensive burn with horrible scarring and mutilation. It is pitiable to read that one mother left a 5-year-old child to "watch" a baby of 18 months, and in the room was a lighted candle. Carelessness and ignorance—their toll of deaths is greater than that of war.—*Journal of the American Medical Association.*

INTRAVENOUS THERAPY.

The intravenous administration of drugs is a new departure in therapy, but one which is rapidly increasing in use. Among its reputed advantages are that it is the quickest means of obtaining the effects of a drug, the effects are obtained with a certainty not obtained by other methods, and they are so marked that they cannot fail to impress the observer. These advantages in many cases are apparent rather than real; but even were they real advantages, they should not blind us to the various and serious dangers which this method involves. The technic, although not difficult, must be thoroughly mastered, or undue pain, infection, air embolism, or even death may result. Such accidents, however, are ordinarily easily avoided, and should be considered quite inexcusable. More serious is the fact that the drugs given intravenously reach the system, and especially the heart in a different manner and concentration from that to which physicians are accustomed with ordinary methods of administration. Pharmacologists have long

practiced intravenous administration, when studying acute effects of drugs, and they have observed that frequently the immediate result of such injections is a prompt fall of blood pressure, not obtained when the same drugs are given by mouth or even hypodermically. This fall in blood pressure is commonly attributed to irritation of the endocardium. It is usually of short duration, but is certainly undesirable and sometimes may have serious results.

It has also been observed that several drugs, for instance, quinin and potassium, depress the cardiac muscle when given intravenously much more than when given in other ways. Furthermore, any substance which tends to precipitate proteins must be injected slowly and with extreme caution, or it will produce intravascular clotting and sudden death. Deaths have resulted not only from a lack of knowledge of the technic of intravenous therapy but also from a lack of knowledge of drugs which may be so administered. Sudden death has been reported following the injection of an iron preparation containing peptone, and also following intravenous injection of ether. Intravenous injections, while sometimes superior to the slower methods, are distinctly inferior when a continuous rather than a sudden action is desired. Drugs leave the blood system with great rapidity, and therefore their action on the circulation will cease promptly unless they are continuously supplied. It would be undesirable to inject intravenously such drugs as iodids, nitrites, iron or salicylates.

With these dangers and disadvantages in mind, it seems unwise to resort to promiscuous intravenous medication until the effects of this method have been studied in detail for the drugs employed, and unless there are distinct advantages to be secured. This is the case when an immediate action is necessary in emergencies, as in the use of strophanthin for cardiac collapse, quinin in pernicious malaria, etc., or if the drug would be destroyed in the stomach or tissues, as in the case of salvarsan, or where the drug is not adequately absorbed by any other channel, as in the case of epinephrin.

Intravenous therapy will be most securely advanced if its employment is restricted to such well defined fields. These fields can be satisfactorily determined only by a scientific pharmacologic study of the action of these drugs when so administered in animals, as well as in man, under conditions in which the results are carefully controlled. The intravenous method is an impressive one, approaching in preparation almost to that which goes with a surgical operation. The patient is usually interested and impressed by this new, and to him, mysterious method. There is a psychic element in his reaction to the injection which is not a factor in his reaction to the same drug when given by mouth. The intravenous injection of a complex mixture would appear to be particularly reprehensible. Little is known, as has been stated, of the results to be expected from intravenous therapy, even with simple substances. The use of complex mixtures will without doubt react against the proper use of the method.—*Journal of the American Medical Association.*

Cancer Department

"In the early treatment of cancer lies the hope of cure."

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

EARLY DISCOVERY OF CANCER. YEARLY MEDICAL EXAMINATION URGED FOR PREVENTION OF DISEASE.

The American Society for the Control of Cancer is strongly seconding the efforts of the National Association for the Study and Prevention of Tuberculosis to have December 6th set apart as "National Medical Examination Day." Among other observ-

ances planned for the day Dr. Harvey R. Gaylord, of Buffalo, Director of the New York State Institute for the Study of Malignant Disease, will deliver an address on cancer at Minneapolis under the auspices of the "Health and Happiness Week" arranged by the Minnesota Public Health Association in cooperation with other social and civic organizations.

The time is undoubtedly coming when Americans will appreciate the great wisdom of the Chinese policy of paying the doctor to keep the patient well. The rapidly-growing movement in favor of an annual medical examination for every person, sick or well, promises much benefit in the reduction of the death rate from cancer as well as that from tuberculosis. In both these very prevalent diseases the hope of cure is very much greater if the ailment be recognized and treated in the earliest stages. Cancer is by no means a hopelessly fatal disease and an ever-increasing number of those afflicted are being saved through their intelligent recognition of the danger signals and their prompt recourse to competent treatment. Undoubtedly many more cases of this disease would be recognized in time for treatment in the early stages, when cure is a comparatively simple matter, if the people were in the habit of consulting their physicians once a year or even at shorter intervals, and having a general physical examination.

Cancer patients are often persons who have generally enjoyed good health, have never been seriously ill and who at the time of the onset of the disease were apparently in robust health. This disease is so insidious in its approach and so often without pain in the first stages that the patient often fails to pay serious attention to the signs of danger. Statistics independently gathered by many surgeons prove that the average cancer patient waits a year or more after observing some suspicious condition before seeking the treatment which is then often too late. This disastrous delay is the main, if not the sole, obstacle to the successful treatment of cancer at the present time.

"Early cancer," says Dr. Charles P. Childe, a prominent English surgeon who has written one of the best popular books on the control of this disease, "produces no feeling of ill health whatever. In other words, early cancer has no symptoms. The reasons which usually induce people to consult a doctor are the suffering of pain or the feeling of ill health. Early cancer produces neither. People are far more likely to go to a dentist with an aching tooth than to a doctor with commencing cancer; they are far more likely to consult a doctor with some trifling derangement of the liver than on account of cancer in its early stages. Owing to the insidiousness of its onset, the victims of cancer are often totally unconscious of the seriousness of the disease which has attacked them. Disaster following on delay through sheer ignorance on the part of the unfortunate sufferers that there was anything seriously the matter with them—these are the every-day experiences of cancer." All good physicians, however, are familiar with the warning signs of the approach of this dangerous disease and if given a chance to examine their patients once a year, especially after the age of thirty, they could undoubtedly save many of them from death before their time.

NATIONAL BOARD OF MEDICAL EXAMINERS.

The National Board of Medical Examiners held its first examination from October 16th to 21st in Washington, D. C.

There were thirty-two applicants from seventeen States, representing twenty-four medical schools, and of these sixteen were accepted as having the necessary preliminary and medical qualifications, ten of whom took the examination.

The following men passed:

Dr. Harry Sidney Newcomer, John Hopkins University.

Dr. William White Southard, John Hopkins University.

Dr. Orlow Chapin Snyder, University of Michigan.

Dr. Thomas Arthur Johnson, Rush Medical School.

Dr. Hjorleifur T. Kristjanson, Rush Medical School.

The second examination will be held in Washington, D. C., June, 1917. Further information may be had by applying to Dr. J. S. Rodman, Secretary, 2106 Walnut Street, Philadelphia, Penna.

THE VITAMINE CONTENT.

The interest of physicians the country over has been greatly aroused by the publication of Reprint No. 333 from the Public Health Reports. The article is entitled Bread as a Food, and Diseases, Malnutrition and the Vitamine Content in its Relation to Pellagra.

The conclusion of the article that a reduced vitamine content of the diet immediately preceded the rapid increase of pellagra in that section is important as showing the cause of the disease, but the influence of the careless and indiscriminate use of soda in cooking as a cause of the reduced vitamine content of the diet is almost equally important. It shows the necessity of the physician giving advice to the housewife in regard to her methods of cooking.

The use of soda in cooking leaves the food alkaline and the alkali destroys the vitamines. If, however, a proper amount of an acid ingredient is used the food is not alkaline and the vitamines are not destroyed. In cooking breadstuffs it has become a custom to use soda only as a leavening agent in certain sections of the country. In these sections pellagra has been prevalent. The physician must take note of this custom and advise its discontinuance.

In other sections milk or sour milk is used with the soda. This is a better practice, but still is fraught with grave danger. The amount of sourness, or lactic acid, must be guessed at and the corresponding amount of soda also guessed. The housewife seldom ever does any guessing because she does not understand that a relationship exists between the sourness and the soda. She adds what she considers enough soda to leaven and what she considers enough milk or sour milk to enrich and moisten. As a result the food is most often alkaline. The physician should advise against incurring these dangers. They can be absolutely avoided by the use of properly made baking powder using sweet milk if desired. All well-known brands of baking powder are manufactured under chemical supervision and are reliable, while the housewife's rule of thum methods with soda are dangerous in the preparation of breadstuffs.

Breadstuffs are the principal food material of a great class of the people and their vitamine content is therefore to be husbanded and not destroyed. If as a result of the economic depression beginning with the year 1907 the cost of food has increased out of proportion to the increase in wages, and that the pellagra incidence has also increased considerably since 1907, what are we to expect with the war prices that prevail today, which are felt all over the country. From 1907 there took place a reduction in the diet of the people of such foods as milk, eggs and meat, with a consequent reduction in the vitamine content of the diet. A like reduction is taking place on an even larger scale today and therefore there is the greater need of husbanding the nutritious qualities of bread and cereal products in general.

In this connection should be considered self-raising flour. This is a product containing soda, salt and an acid ingredient. If properly compounded the soda and acid should neutralize each other and no alkali left in the food to destroy the vitamines. Self-rising flour, however, is being manufactured largely by housewife rule of thumb methods, without chemical supervision. It contains phosphate rich in calcium sulphate

which latter is undesirable in food products. The use of a standard baking powder and a good flour is cheaper for the consumer and is safe. The latter consideration should overcome the tendencies to laziness to which weakness, only, self-rising flour caters.

COMBATING INSECTS AFFECTING THE HEALTH OF MAN.

Activities of the Bureau of Entomology of the United States Department of Agriculture Shown in Annual Report.

Continued advances in the work of combating the activities of insects affecting the health of man are reported by the Chief of the Bureau of Entomology of the United States Department of Agriculture in his annual report recently issued. In mosquito investigations in Louisiana a species of mosquito hitherto considered a non-carrier of malarial infection was proved to be a carrier. Studies have been made of malaria and measures are being evolved to meet plantation conditions.

The "starvation" plan, aimed to exterminate the spotted fever tick of the Bitter Root Valley, Montana, was followed during the year with encouraging success. The plan consists of the removal of the domestic hosts of the adult tick from the infested areas. The Bureau also conducted a campaign of extermination against ground squirrels and other rodent hosts of the immature ticks. Examination of the rodents killed showed 40 per cent lower infestation by the tick than during the preceding year.

The report directs attention to the demonstrations of the Bureau specialists that the breeding of flies in manure can be prevented by treating the substance with calcium cyanamid and acid phosphate, which at the same time increase the fertilizing value of the manure.

The Bureau also conducted investigations into methods of lessening fly infestation in packing establishments operated under the Meat Inspection Service of the Department.

THE SOUTHERN GASTRO-ENTEROLOGICAL ASSOCIATION.

The Southern Gastro-Enterological Association was organized in Atlanta on November 15th while the Southern Medical Association was in session there.

Active membership in this society will be limited to those investigators and practitioners of the seventeen southern states who confine their work exclusively to diseases of the digestive tract.

It will be the policy of the association to hold its regular meetings annually, the next place of meeting yet to be announced.

The following officers were elected: Dr. J. C. Johnson, Atlanta, president; Dr. J. T. Rogers, Savannah, vice-president; Dr. Marvin H. Smith, Jacksonville, secretary-treasurer.

Councillors: Dr. S. K. Simon, New Orleans; Dr. G. M. Niles, Atlanta, and Dr. Seale Harris, Birmingham.

Admission and Ethics: Dr. George C. Mizell, Atlanta; Dr. J. E. Knighton, Shreveport; Dr. J. B. Fitts, Atlanta.

NEW AND NONOFFICIAL REMEDIES.

Solution of Hypophysis—Squibb. — A sterilized, aqueous solution of the water-soluble active principles of the posterior lobe of the pituitary bodies of cattle, free from chemical preservatives and physiologically standardized. It has the properties of the pituitary gland, as described in New and Nonofficial Remedies, 1916. E. R. Squibb and Sons, New York. (*Jour. A. M. A.*, Sept. 2, 1916, p. 745).

Liquid Petrolatum — Squibb, Heavy (Californian).—It is made from Californian petroleum and is claimed to be composed chiefly of hydrocarbons of the naphthene series. A brand of liquid petrolatum complying with the U. S. P. standards for liquid petrolatum and claimed to be superior to liquid petrolatum, U. S. P. E. R. Squibb and Sons, New York. (*Jour. A. M. A.*, Sept. 23, 1916, p. 953.)

Publisher's Notes

HALF A CENTURY'S PROGRESS

October, 1916, points an epoch in the history of Parke, Davis & Co. The house was founded in 1866—just fifty years ago this month—largely upon the optimism of three or four determined men, backed by a capital that would seem insignificant today. There was nothing in its unpretentious origin to foretell the success of after-years. And by success we mean not merely material prosperity, but also that broader and more enduring success that is based upon good-will and confidence.

Manufacturing pharmacy was then a crude, imperfect art. Bacteriology, pharmacology and biological pharmacy were as yet unborn. There were no curative sera or vaccines in those days. Prophylaxis was in its infancy. Standardization was unknown.

Fifty years have wrought marvelous changes in means and methods for the treatment of human ills. The materia medica has been amplified beyond the dreams of the earlier investigators. Knowledge of pathology has immensely broadened. The empiricism of the past has given way to rational therapeutics, and medicine is taking its rightful place among the sciences.

In all these forward movements Parke, Davis & Co. have had some part—notably as discoverers of new vegetable drugs, as inventors of new chemical compounds, as pathfinders and producers in the field of biological manufacture, as investigators in original research, as pioneers in both chemical and physiological standardization.

The past half-century, as we have intimated, has been remarkable in its contributions to the newer materia medica. What will the next fifty years bring forward? Time alone can write the answer. Ours is a progressive age. The science of medicine has not reached its highest development. The physician's armamentarium will be further enlarged and fortified. New remedial agents will come into being. Many existing products will be improved. And with the fulfillment of these conditions, Parke, Davis & Co. (if we may judge the future by the past) are certain to be identified.

Our Advertisers are helping us—
are you helping them?

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, January, 1917 Number 7

AN ACT

Relating to the Right to Practice Medicine and Surgery in the State of Florida; and Providing for a State Medical Board; and Means and Methods Whereby the Right to Practice Medicine and Surgery and Any of Its Branches May be Obtained, and Exemptions Therefrom; and Providing for the Revocation and Suspension of Licenses by Said Board; and Providing Penalties for Violations; and Repealing All Acts or Parts of Acts Inconsistent Therewith.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF FLORIDA:

Sec. 1. *Practice of Medicine and Surgery*: That on and after January 1, 1918, it shall be unlawful for any person in the State of Florida to engage in the practice of medicine and surgery or to hold himself or herself forth as a practitioner in medicine and surgery, or to assume the title of Doctor of Medicine and Surgery, or doctor of any specific disease, or method of treatment, or to diagnose, or to treat diseases by the use of medicine and surgery, or to hold himself or herself forth as able to do so, excepting those hereinafter exempted, unless he or she has first fulfilled the requirements of this Act and has received a certificate of license from the State Medical Board of Florida created by this Act, and has had such certificate of license properly recorded in the Office of the Clerk of the Circuit Court of the County in which he or she shall then reside, or shall thereafter move to and take up his or her residence.

Any person wilfully violating the provisions of this Section shall, upon conviction, be deemed guilty of a misdemeanor and shall be punished by a fine not exceeding $500.00, or by imprisonment for not more than six months, or by both such fine and imprisonment, in the discretion of the Court; provided, this Section shall not apply to those persons, who, under the laws of this State, are legally entitled to and hold a permanent certificate of license to practice medicine and surgery in this State at the time this Act becomes a law, or who are exempt therefrom by the further provisions of this Act.

Sec. 2. *Medical Board of Florida*: For the purposes of this Act there shall be established in this State, a State Medical Board under the name of "Medical Board of Florida." Said Board shall consist of Seven (7) members, who shall be appointed by the Governor of this State from among the members of each of the following named schools of medicine, respectively, who have been, for Five (5) years, last past, residents of and legally practicing the profession of medicine and surgery, according to the tenets of their respective schools, in the State of Florida: Four (4) members from the school known as the Regulars; Two (2) members from the Homeopathic School; and One (1) member from the Eclectic School. Two (2) of whom shall be appointed for four years, Two (2) for three years, Two (2) for two years, and One (1) for one year, all to assume their duties January 1, 1918.

Said Board shall effect its organization immediately after the appointment of its members. It shall be its duty to enforce the provisions of this Act, and it shall be the duty of all prosecuting officers of the Courts of this State to prosecute any violations occurring, and brought to their notice, within the respective jurisdiction of each, but this shall not preclude the employment by the Board of special attorneys for any purpose. Successors to the respective mem-

bers shall be recommended and appointed from the same school of medicine with which the retiring member was affiliated, whether upon the expiration of such member's term or to fill a vacancy from whatever cause, but appointments to fill a vacancy shall be only for the unexpired term of such former member, otherwise all subsequent appointments after the first appointment shall be for four years. The Governor shall have the right, upon proper proof, to remove any member of said Board from office for unprofessional or dishonorable conduct, or for continued neglect of the duties of his office.

Sec. 3. *Officers and Rules*: At the first meeting to perfect its organization, and at the first meeting in each year subsequent to the year 1918, said Board shall elect from among its members a President and a Secretary-Treasurer to hold office for one year, each of whom shall perform the duties usually appertaining to such offices and such other duties as may be prescribed by the by-laws of the Board. At its first meeting after organization said Board shall also pass such rules and regulations, in the form of by-laws, for the transaction of its business, the carrying out of its functions, and the registration and regulation of all physicians and doctors in this State, and for conducting examinations of applicants for license, not inconsistent with the General Laws of this State or the provisions of this Act, as said Board may deem necessary and proper, and may thereafter, at any regular or special meeting, add to, amend or repeal the same; provided any such rules or regulations relating to the qualifications or examination of applicants for license shall not take effect until ninety days after the passage of the same.

Sec. 4. *Qualifications of Applicants and Examinations*: The Board shall prescribe a standard of preliminary and professional education for all applicants for examination for license and shall have authority to refuse to examine graduates of any school of medicine maintaining a lower minimum standard than the standard prescribed by the Board. All applicants for examination shall furnish, prior to the examination, satisfactory proof that he or she is of good moral character and not addicted to the intemperate use of alcohol or narcotic drugs before such applicant shall be allowed to take the examination.

The Board shall prescribe in its by-laws the subjects included and as to his or her knowledge of which each applicant shall be examined, and shall similarly prescribe the standard of proficiency each applicant must show, in each subject, and in the subjects as a whole, upon examination, to entitle such applicant to a certificate of license. The examinations shall be held twice in each year, or oftener, at such times and places as shall be determined upon by the Board, and the same shall be in writing or practical, or both written and practical, in the discretion of the Board.

Sec. 5. *Temporary License*: Any person qualified and entitled at the time to make application for and be permitted to take an examination as hereinbefore provided, upon making such regular application for examination, and payment of the regular fee, hereinafter provided, may, at any time more than thirty days before the time of holding the next regular examination, receive, on examination from any member of the Board, through the Secretary, a temporary license certificate, entitling such applicant upon the receipt of same to practice medicine and surgery in this State until the first day of the next regular examination and no longer; provided, that such temporary license certificate shall be recorded as is provided for the recordation of permanent license certificate before such person shall practice thereunder.

Sec. 6. *Drugless Healer's Examination and License*: Said Board shall also examine and license persons desiring to practice any limited branch, or branches, of medicine or surgery, and shall establish rules and regulations in the form of by-laws governing such limited practice, the recording of the certifi-

cates of license of such practitioners, the subjects in which they shall be examined and the means and manner of conducting such examination; provided, that all applicants intending to practice any limited branch, or branches, of medicine and surgery, shall furnish satisfactory proof at the time their application for examination that they are of good moral character and are not addicted to the intemperate use of alcohol or narcotic drugs and that they have had such preliminary and professional education as the rules of the said Board require of applicants for a certificate of license to practice in the particular cult with which such applicant claims affiliation. Such certificate of license shall be known as a "Drugless Healer's License," for the particular cult which shall be named therein, and shall limit the holder in practicing to the tenets of the particular cult named therein.

A person shall be regarded as practicing medicine and surgery within the meaning of this Act, who uses the words or letters, "Dr.," "Doctor," "Professor," "M. D.," "Specialist," or any other title in connection with his name which in any way represents him as engaged in the practice of medicine and surgery in any of its branches, or who examines or diagnoses for a fee or compensation of any kind, or prescribes, advises, recommends, administers or dispenses for a fee or compensation of any kind, directly or indirectly, a drug or medicine, appliance, application, operation, manipulation or treatment of whatever nature for the cure or relief of a wound, fracture, bodily injury, infirmity, disorder or disease, mental or physical. The use of any such words, letters or titles in such connection or under such circumstances as to induce the belief that the person who uses them is engaged in the practice of medicine and surgery, shall be prima facie evidence of the intent of such person to represent himself as engaged in the practice of medicine and surgery.

Sec. 7. *Exemptions*: This Act shall not in anyway apply to Osteopaths, nor be construed as regulating the practice of Osteopathy as the same is generally understood by the medical profession, or as it may hereafter be defined by law; nor shall it be construed to apply to regularly licensed dentists or pharmacists when engaged exclusively in the practice of dentistry or pharmacy, nor to prohibit such dentists from administering anesthetics in his or her practice of dentistry; nor shall it apply to Christian Scientists, nurses or midwives in following their respective vocations strictly as such.

Nothing in this Act shall be construed to prevent the Medical Board of Florida from issuing a certificate of license without examination to any person who has been examined and received a certificate of proficiency in medicine and surgery from the National Board of Medical Examiners upon payment of the regular examination fee and compliance with such regulations as the Medical Board of Florida may prescribe for such persons.

The Medical Board shall have authority to admit without examination by any reciprocity regulations the Board may make, applicants from other States with standards equal to those in force in Florida, at its discretion.

Sec. 8. *Fees and Expenses*: Each person applying for a certificate of license to practice medicine and surgery within this State, or applying for certificate or license as a Drugless Healer, shall pay a fee of Twenty-five ($25.00) Dollars to said Board at the time such person makes such application, whether such applicant is to be examined or not, and the said Board shall under no circumstances be required to refund any such fee or any part thereof. Not less than ten per centum of each of such fees shall pass to a contingent fund to be expended for the purpose of the Board, other than ordinary expenses, as the Board in its discretion may determine. The balance of such fees shall, after paying the ordinary expense of the Board, be pro rated among the members of the Board, present and participating in the examination, as compensation for their services.

The Board shall have the right at any time to employ an Inspector or Inspectors to investigate and report as may seem necessary in the enforcement of this Act.

The said Board shall have full power and authority, when sitting in regular or special session as a Board, to revoke and annul or to suspend the operation of any certificate of license to practice medicine and surgery, or the certificate of license to practice as a Drugless Healer in this State, upon full and satisfactory proof being made to the said Board at a hearing to be held after the holder of such certificate of license has had at least ten days prior notice in writing from the Board setting forth particularly the grounds of the complaint against him or her, the time and place when the same will be heard, and the name of the person complaining. Such hearing shall not be held except upon complaint in writing sworn to before some officer authorized to administer oaths in this State, setting forth that the person whose certificate of license is sought to be revoked and annuled or suspended has, since the date on which this Act shall become a law and within two years last past before making such complaint, either:

(a) Been convicted of a felony or of a misdemeanor involving moral terpitude in the Courts of a State of the United States, or the Courts of the United States, or its territories, or the Courts of some Foreign Country. A duly certified copy of the record and judgment of any such conviction when duly presented to the Board at the hearing shall be prima facie evidence of the regularity and finality of the conviction it purports to recite. If such conviction is had in any of the Courts of the State of Florida, the rendition and filing of such judgment of conviction shall automatically and at once, of itself, revoke and annul the certificate of license held by such person so convicted and his or her authority to practice medicine and surgery, or as a Drugless Healer, within this State.

(b) Or that he or she has been guilty of habitual intemperance or of gross and flagrant immorality, of habitually using intoxicating liquors or narcotic drugs to an extent, unfitting such person or making it dangerous for such person to practice medicine and surgery or as a Drugless Healer, in the opinion of two-thirds of the members of the Board.

(c) Or that such person has knowingly and wilfully, with the intention to obstruct or pervert the ordinary course of nature in such cases, for a purpose other than a bona fide object of preserving human life, counselled, suggested, or caused or assisted in causing, by any method, means or in any manner whatsoever, an abortion upon any female person.

(d) Or that any such person has been guilty of unprofessional conduct in the practicing of his or her profession according to the generally accepted standards of ethics of such profession in this State, either guarantying to cure, or his or her ability to cure, any generally recognized incurable disease, or by publishing, making or circulating printed or written matter as an advertisement, containing false statements of guarantees of such person's skill, ability or competency to successfully diagnose, treat, relieve, correct or cure any human disease, defect, infirmity, injury or derangement, whether mental or physical.

For the purposes of this Act it is made the duty of any Sheriff or Constable in this State to serve process of the Medical Board of Florida making return thereon and receiving such fees as such officer is allowed for the like kind of services for the Courts of this State, and the said Board is hereby authorized and empowered to direct and compel the attendance of witnesses for the Board and for the person complained of at any hearing.

Sec. 9. All laws or parts of laws in conflict with this Act are hereby repealed.

Sec. 10. This Act shall be in full force and effect on and after January first, A. D. 1918.

ORIGINAL ARTICLES

THE PRACTICAL POLICY.*

Oscar Dowling, M. D.,
Shreveport, La.

Yesterday there was no concept of health as a purchasable asset either for the community or the individual. Yesterday the fly was thought of only as a pest, the mosquito as an annoyance. Yesterday it was not known that water and milk might be the transmitting agents of the deadly germ of typhoid fever and that there are human carriers as well. Yesterday there were no sera or vaccines except the one, and definite measures of prevention of common communicable diseases were unknown.

Within a few years, the short period of one generation, medicine and the allied sciences have pointed the way toward eradication and prevention of some of the most formidable foes to man's health and happiness. They may be controlled and prevented, conquered and routed. Science has done herself proud in revealing the secrets of the hidden world and man is the beneficiary. It remains to make these discoveries concrete in habits and practices, healthy bodies and vigorous minds.

There are two parties to the contract—the public and the physician. The former can be brought to conviction and moved to action by persuasion and instruction only; the latter are willing almost to a man, but are not united in effort. Both are under the influence of tradition and custom. To dispel these clouds is the duty of all who know and of those who realize the beneficence of a finer and a better order.

In the old days when the truth concerning epidemical diseases was yet unknown, it was considered a civic crime to make public the news of the presence in the community of a case of one of these. Cities jealously guarded the secret of yellow fever until its prevalence no longer could be concealed; the authorities denied its presence and every physician and other citizen who winked at the policy was commended for his civic pride and patriotic spirit. Smallpox and cholera, likewise, were not reported until they had to be acknowledged; in fact, anything in this line which would injure commerce, it was thought justifiable to suppress.

The reasons are evident. One case of yellow fever today, another tomorrow miles away, next day a hundred. Was it carried in clothing, in letters, by persons? No one knew, therefore control was hopeless. A despairing wait until frost was the only remedy. To have the entire business of the community come to a dead stop, to have every door in the country shut in one's face was not a pleasant prospect and a very trying experience. Once having endured it, no community wanted to live through it again. It was natural and logical to stave off as long as possible the unhappy experience, and only by the suppression of facts could this be done. I fully understand the temper and the motives of the communities in those days when no one knew the how and the why of infection. I served through one dark period and the memory of the suffering and despair of the stricken city is yet vivid. I recall asking a friend, "Why are you running away?" He only took time to holler over his shoulder, "By golly, because I can't fly, and if you have any sense, you will get a move on you, too."

Now that we have knowledge that is certain and clear, that we know how to control and prevent, to conceal is a civic crime. The best asset of any financial form of credit is the confidence of the outside world. One of the assets of the community is a reputation for honesty in dealing with all other communities. If you have a case of diph-

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 25, 26, 1916.

theria in your home, the health officer is notified, the patient isolated. The school is not interrupted, you are free to come and go to your business, but the community is protected and warned. It is advised of the measures in effect and relieved of fear of a widespread epidemic. If individuals desire, they can themselves take such further precautions as they deem necessary.

What is true of the family unit may be applied to the unit city of the state, or the state itself. If New Orleans advises all health officers of a case of an epidemical disease, Florida and other states may find out what is being done. They may insist on further efforts, or they may take within their own borders such steps as they deem imperative. There is a sense of security in the assurance that there will be issued official reports of the status of affairs and that nothing will be suppressed.

Perhaps no disease is more feared than Bubonic plague. Almost everyone knows of its devastations in the past; of how it made of Europe a charnel house and left cities with not enough living to bury the dead. Years ago one case would have meant a shotgun quarantine. But when the State Board of Health of Louisiana gave to the world the news of the presence of this dread disease in New Orleans there was no panic. Intelligent activity, intelligent plans to prevent the spread, and intelligent method of giving to the world daily bulletins were put into effect, and the business of the South and the peace of mind of the people were undisturbed. This is a pertinent and forceful example of the wisdom of a policy of publicity. The day of concealment has passed. It belonged to the system that knew not prevention.

I believe doctors are not universally convinced of this. Every now and then typhoid fever or diphtheria will get a foothold in a community and on looking up the records, it will be found that a case, or it may be several, had developed months before the outbreak. They were not reported; especially is this true of typhoid fever. Why? Carelessness? Often not so much that as a desire to "keep down talk," the hope there will be no others, or it may be to await developments for sure grounds of diagnosis. To the executive health officer, state or local, who wants to do his duty this policy of delaying or suppressing reports seems nothing short of criminal. If a case of infectious disease is promptly reported, it may be he cannot prevent the spread, but at least he has the satisfaction of knowing that he did his utmost. And generally he can limit the number of cases if the disease cannot be controlled completely.

Within a year we have wrestled with two epidemics of typhoid: one serious as there were more than 200 cases with several deaths, and one which may yet assume a more serious aspect. Can these be traced to the physician, derelict in reporting? Circumstantial evidence points that way. Would any physician like to be confronted with the proof that failure on his part to report a case of typhoid was even indirectly the cause of a death? Do you think such evidence could be gathered? I have no doubt that in some instances it could be. I have no doubt either that if you or I were convinced of this in just one case we would never again be derelict in reporting.

The responsibility for public health is largely the burden of the general practitioner. In the United States today there are something like 3,000,000 persons languishing in the throes of suffering. About half are under the care of a physician. In the homes of the rich, the hovels of the poor, in the exclusive resident section, in the tenement district, in the railroad camp, the factory village or the sawmill town, the doctor is giving himself to the labor of amelioration of suffering. Is there anyone more familiar with the agony and despair which follow in the wake of sickness? The doctor knows the lack of conveniences and

lack of medicines which make impossible proper treatment of hundreds; he knows the futile struggle of many households to take care of the invalid; he knows how bank accounts disappear and debts pile up when disease enters the door of the average home; he realizes more keenly than anyone the intimate relation of sickness and the inefficiency of many wage-earners; if he thinks at all he is conscious of the connection between illness and the heavy burden which society bears in providing for the physically unfortunate. If he is an economist he deplores the waste in human life and the waste in money which for lack of proper supervision and management in affairs obtains in every city and state in the country.

Noblesse oblige, the doctor must set the standard. The doctor knows better than any other member of the community why a case of infection should be promptly reported; he knows better than anyone else the dire consequences of delay; he must realize keenly the necessity for immediate action. This knowledge of the situation grows out of his training and his experience. It is inconceivable that any physician who has known modern medicine should delay in reporting a case of scarlet fever or diphtheria. Yet there are some, often their excuse being that it does no good since health officers have neither money nor power to take proper preventive measures. Can they have, ever, if the physician does not help to show the public what can be done? Because of his wide outlook, his intimate relation with the family life and the things he has seen come to pass, the doctor knows the legal necessity for the accurate recording of births and deaths. How can he be forgetful of this civic obligation? How can he fail to have on his mind his personal responsibility for the possible legal need that may arise for a birth certificate of some child or a legal record of the death of some individual whom he has attended?

If the doctor does not set the example in these important features of community life and welfare, is it likely that those who do not know of their value will urge or demand that the laws on these subjects be enforced?

The physician is *ex-officio* a health officer; he is the best health officer if he takes his position of influence seriously. Is he not familiar with the home surroundings of the families he visits? Have they a safe water supply? Or is the well situated in the stable yard and only about thirty feet in depth? Who better than he can tell Mr. Blank that his well is the cause of the attacks of illness of the family? Whose advice is more potent than his in warning Mrs. B. that the children must be vaccinated or that if they have sore throat, it is dangerous to have them go to school? The doctor's advice and instruction is appreciated and remembered, if not always heeded. Whatever is insanitary in the home, whatever is unhygienic in the habits of the family, the family doctor, friend and counsellor, can speak of kindly but firmly, and his interest will be thought a mark of friendship.

What the physician is to the individual home, he can be to the community also. Does the village or town in which you live need a clean-up day? Does it need a sanitary system of sewage disposal? Has it a good water supply? Does it provide scavenger service? Does it have a record of the cases of smallpox and other reportable diseases? If not, why not? Who is responsible for low ideals of health and low standards of sanitation, if not the physician who knows what these mean?

Since the dawn of civilization progress has been wrought by those who had the "vision" and by those who knew. In this as in the day of Moses, Socrates, Savonarola, Rousseau, leaders must arise from those convinced that a better order must

obtain. Who then in health activities but the physician? He is the seer; he has the knowledge. In time of danger he sacrifices his own interests and it may be those dear to him. What he is called to do now is not in the eyes of the world so heroic as dying to prove a medical fact, but for progress equally imperative. The doctor must lead in the education of the multitude. No one else is fitted.

Many doctors ask, Is it worth while to make one's self a target for criticism? Is it ethical to invite animosity? Is it professional to stand out against the powers that be? Is there compensation for the unrest and annoyance which public work entails?

The answer lies in one's ideal of values. Is it worth while to turn an anarchist into a law-abiding citizen? Is it worth while to change the dark, filthy hovel into a home of sunlight and cleanliness? Is it worth the effort to save children from tuberculosis, adults from the insane hospital and penal institutions? Is it worth the effort to feel that one has lessened the sum of suffering and increased the sum of happiness? Is it worth while to give humanity a lift onward toward the heights? If anything is worth while, it is the satisfaction which comes to him who holds himself the servant of the weak, the suffering, and who in the cause of humanity spends himself loyally, faithfully and unselfishly.

THE PRACTICING PHYSICIAN'S RESPONSIBILITY IN PUBLIC HEALTH WORK.*

C. P. Knight, M. D.,
Passed Assistant Surgeon, U. S. Public Health Service.

The science of medicine has progressed more rapidly in late years than any of its sister sciences. Especially is this true of preventive medicine and hygiene. Specializing in these two branches has become known and is termed public health work.

Webster's dictionary defines physician as "one skilled in physic or the art of healing." This, as applied to the modern physician, is hardly conceivable. Our conception of the definition must necessarily be more comprehensive than that of Webster's. Today, not only must he be skilled in the art of healing but he must be expert in the art of preventing disease, through the practical application of the study of epidemiology, hygiene and social welfare.

The practicing physician occupies in the community a position of special responsibility. He has a dual duty: one of assisting the sick, another of protecting the healthy. He is minister to the afflicted and the watchdog of the community. His relationship to the health department in this day of advanced medicine is necessarily very intimate. The health of your state depends upon the health of your community, and in turn the health of the community is dependant upon the health of the individual. Again, the health of each individual is balanced by the health of every other individual. It will be seen, therefore, that the physician's knowledge of the health status of the individual is of great value to the community. Moreover, by its proper dissemination, this knowledge can be used to great advantage in health conservation.

The larger part of the physician's work should be preventive. In former days the doctor relieved pain and saved an individual life. Today he guards the health of the township, assists in warding off epidemics and prevents the spread of communicable disease. The day of the primitive treatment of communicable disease has passed. In most instances the intelligent cooperation of the physician with the health department has been established. The progressive physician no longer treats a case of diphtheria as an individual case and then stops. He treats the case, he investigates the condition of the throats of members of the family and of the

---

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 25, 26, 1916.

immediate associates and, of most importance, he notifies the health department. The health board or officer now rightly assumes responsibility for the control of the disease. In this way cooperation with the health board will show its effect on the health of the community.

The establishment and development of the modern health departments in cities, counties and states is partly the result of a well-organized movement in the study of social welfare. Many communities now realize that those diseases which are preventable should be controlled. Hence the establishment of efficient health boards.

In most instances, the largest function of a department of health is the prevention and control of communicable disease. But, however well organized it may be or however well this public health machine may have been developed, it is powerless to act unless it has the hearty cooperation of the physician. It will be shown how impossible it is for a health board to successfully combat disease or carry on an epidemic campaign without the aid of the physician. In order to control an epidemic the health officer must have the necessary information as to the prevalence of the specific disease. In other words, he must know what diseases are present and under what conditions they are occurring. It is from the family physican that such knowledge will be obtained. He alone stands guard among his people and upon his attitude depends the health and happiness of the community, the state and the nation. Evidences of responsibility which rest upon him are easily found. We see cases of typhoid fever in a rural community, not reported, not investigated, infecting the water supply or the milk supply, thereby causing an unwarranted epidemic which could have been prevented. This is just one instance where carelessness and familiarity with the disease has bred indifference to a wholly preventable and controllable disease. A disease which is one of the greatest menaces to the nation.

It will be seen that the effect of the hearty cooperation on the part of the practitioner is not only felt at home but is felt by the nation as well. The local board looks for its information from the physician who comes in direct contact with the cases. In turn the state health department seeks its information from the local board. Now the United States Public Service, whose duty is the conservation of the health of the nation and the control of epidemics of importance, must necessarily seek its information as to the prevalence of disease from the state. It is, therefore, the practicing physician who, though unconsciously, is helping to conserve the health of nearly 100 millions of people.

In most of the foregoing attempt has been made to show the physician's responsibility to the community through his relationship with the health authorities. An exceedingly important function in any campaign for the improvement of public health is the education of the people along the lines of hygiene and preventive medicine. Results are best obtained through individual teaching. Education of the individual is the physician's duty. A prominent physician has said, "Were the attempt made to have physicians instruct persons, particularly the mothers and fathers or any adult in private houses, in the prevention of disease, it would be thought even in this day of advanced preventive medicine that the doctor was going beyond his sphere; and the instruction must be left to some one else." To my mind, this is quite the reverse and is the wrong attitude to assume. The family physician by the nature of his calling is best fitted to carry on this educational work.

The United States Public Health Service has at this time about thirty officers in the field teaching rural sanitation in several of the states. This is done by coming in direct contact with the people in a house to house campaign. They have already shown the

fruits of their labors. If a few men over a vast area can accomplish so much, how great would be the result if every physician would devote some of his time in teaching those with whom he is in direct contact during his daily visits? As stated before, a great deal of public health work is a campaign of education and the more thoroughly a campaign is carried on the better will be the results.

The mere enactment of health laws and an attempted enforcement by forcible methods is primitive; the instruction of the public in matters pertaining to public health and preventive medicine has taken its place. The results of the practicing physician's efforts should be apparent, inasmuch as it can be seen that people would give their cooperation to the enforcement of sanitary regulations much more readily if they understood them and were taught by those in whom they have the utmost confidence than if an attempt were made to compel them to blindly obey the law.

As a leader in his set, as a good doctor and as a representative citizen, his duty is plainly set before him, and it is for him to act if the health of the nation is to be conserved.

These educational methods apply not only to the prevention of epidemics and communicable disease but also to all controllable disease. The steady decrease of infant mortality for the past ten years in the city of New York is a shining example of the results of public education in the control of disease.

The practicing physician is an integral of that complex machine, the health department, whether it be town, state or federal. He is the vital part of that machine because he comes in direct contact with the people. Upon his attitude and realization of his responsibilities depends the success or failure of a health department in its fight against disease. By his help and cooperation the community is bound to prosper.

MEDICAL ASPECT OF THE NAVY.*

A. J. Toulon, M. D.,
Passed Assistant Surgeon, U. S. Navy.

My message today is more for the younger men of the profession; at the same time I hope it will hold some interest for you who have spent the best years of your life administering to the sick of your respective communities, for after all, in the time of need, it is to you to whom we look for the great work of rebuilding the shattered frames and injured beings that are returned from the scene of action. You, who, at the call of your country, are called from your professional pursuits in your peaceful communities to man the various hospitals that would be established for the care of those who have been injured to such an extent that their retention with the fighting forces would be an incumbrance to the efficiency of the personnel. But especially do I wish to bring before the younger men the opportunities and honor that the service offers today.

By recent legislation the Medical Corps of the Navy has been increased practically 100 per cent. What does this mean? Practically an increase of 100 per cent efficiency. It means that the young man entering today is assured of rapid advancement, which means more pay for his service, and more honor and privileges.

Conceive, if you can, a man well versed in the practice of medicine, surgery, laboratory research, hygiene and sanitation and physiology, and you will have the composite Navy medical man.

The requirements for entering the Navy Medical Corps at the present day are that you are between the ages of 21 and 32, a graduate of a recognized medical college, and pass the required physical and professional examination. After having passed the above requirements, you are commissioned in the Medical Reserve Corps of the

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 25, 26, 1916.

Navy. Upon request for active duty you are assigned to a Naval Hospital or such other station as your services may be required until the beginning of the course of instruction at the Naval Medical School. After six months at the school you are again examined and if found qualified you are commissioned in the regular Medical Corps of the Navy. From the time you are assigned to active duty you draw the pay and allowances of your grade and you are allowed all expenses incurred in traveling from one post to another. The six months' course at the Naval Medical School may be likened to a highly organized course at a post graduate college with particular stress laid on surgery, tropical diseases and such conditions as may result from service environments; together with military hygiene and laboratory work. In fact, it is such a course as I know many men in practice dream of and instead of paying a tuition fee for this course you are actually paid for the privilege of attending it.

I have often been asked the question, "Does not a medical man in the service stagnate in his profession?" After ten years' service in the United States Navy, I can honestly say a man does not stagnate but must keep on his toes to deliver the goods. For instance you who are in general practice, how often are you called upon to perform major operations? How many of you are qualified to diagnose cases of leprosy, rhino-pharyngeal mutilans (commonly known as gangosa), frambœsia or yaws, beri-beri, schistosomiasis and numerous other conditions I might mention, and at the same time be prepared to make a thorough examination of a water supply or pass judgment on thousands of dollars' worth of food? No, a man does not have time to stagnate and the service sees that he has no chance to do so, for in order to retain your commission in the Medical Corps it is necessary to keep abreast of the times, and the Bureau of Medicine and Surgery at Washington sees to it that every man is given an opportunity to improve his professional ability. The navy is no place for a lazy man, but to a man who is willing to give all that is in him it offers wonderful opportunities, such as a good steady income which increases with years of service and after reaching the age of 64, retirement on three-fourths of your pay at the time of retirement, this to hold for the remainder of your life. In case of death while in the service, through causes incident to service life, your widow or heirs become beneficiary for one-half of a year's salary, and your widow or dependents may be pensioned in deserving cases. An opportunity to travel and see the world is offered, and this under the most auspicious circumstances, for you are always in the status of the representative of a great country and therefore well received both socially and officially wherever you may go.

I was rather amused at a question put to me by one of your members at the Navy Yard yesterday. He said, "Where are the soldier boys?" I presume he meant the sailors. My answer was, "There they are working in dungarees." This gentleman evidently expected to see young sailors in natty uniforms strutting around the campus, such as are displayed on the covers of our modern magazines and posters, but unfortunately I was unable to supply the musical comedy article for our worthy colleague. A sailor's day is taken up like the average individual in hard work, all of them following a special line of work. Take for instance a modern battleship, which means an investment of close to $20,000,000 to the government. On board this ship live over a thousand officers and men? Do you think that our government is so lavish with the people's money that it says here is a $20,000,000 toy, go and play with it? No, indeed. It says, "Here is a very expensive and important adjunct to our national defense; we commend it to you for your care; keep it in such condition that when the country needs it, you will be able to protect our shores from foreign invasion." Let us analyze this $20,000,000

ship with a thousand souls. Take for example a town of 1,000 inhabitants; you have your butcher and baker, your carpenter and builder, your tradesmen of all sorts and your professional men, such as lawyers, ministers and doctors. So have we on our twenty-million ship, only they must be especially trained men in their particular lines, for in addition to the usual routine of their work, they must also have the military end in view. Aboard such a ship, there is a fully equipped hospital with beds for the sick, provision for the care of contagious diseases, operating room and laboratory. Two doctors are assigned to such duty with a corps of trained assistants. Not only must they look after the sick but the sanitation on board becomes a problem. In a town of 1,000 people your sanitary problems are quite simple with your natural water supply and ready means of dealing with your excreta and waste material, but on board ship with your one thousand people housed together you have the problem of heating, lighting and ventilating to deal with and the fear of a contagious disease invading your confined spaces. All food that is brought on board must first be passed by the medical officer, so you see Navy doctors must be versatile individuals to play the part of physician, surgeon, health officer, sanitary inspector and what not. Again we may liken the navy to a big insurance company, for the navy will take none but the strong and healthy, for living conditions in the navy are unnatural and no place for the weak. So your doctor man must weed the weak from the strong by thorough physical examination. Again he must pass on their qualifications for special branches such as submarine work and aviation and in this he must play the role of psychiatrist and physiologist.

I have not come here today to make an eulogy on the naval medical officer, but rather to place all the advantages and disadvantages of the service before you, especially the younger men of the profession, and to induce such of you who have ever considered the thought of entering the service to think well on it and decide, for now is an especially opportune time. The idea of the navy is often associated with long periods of absence from loved ones and friends and I have heard it said that the navy is no place for a married man, but I think I can safely say that over 75 per cent of the officers of the navy are married and as far as I can see are happily married. You will never get rich, but you have a well ordered, regulated life, and can count on 100 per cent collections, for Uncle Sam is an excellent paymaster and his purse is not affected by labor conditions, and when you have spent the best years of your life and have reached the age of 64, when the human machine begins to slow up, you can rest assured that your declining years will not be spent in want and your dear ones will be provided for. I thank you, gentlemen, for your kind attention.

SIMULATED BLINDNESS AND ITS DETECTION.*

M. A. Lischkoff, M. D.,
Pensacola, Fla.

In the United States, where there is no compulsory military service, simulated blindness is not as frequently encountered as where there is compulsory service; yet on account of the large number of injured eyes following accidents, and the hope of compensation therefrom, it is not a rare occurrence to meet with one who simulates.

Only seldom is total blindness simulated, on account of the difficulty to carry out the design and the relative ease with which it is detected; so that partial amblyopia is the common form we encounter. This may be the feigning of total or partial blindness in one eye, or exaggerated loss of vision in both. Quite similar are the symptoms of hysteria, which must always be excluded.

When there is lack of agreement between

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 25, 26, 1916.

the results of our functional testing and the objective examination, we should immediately become suspicious, yet observe carefully, so that the patient will not be aware that he is even under suspicion.

The first thing we look for is the pupillary reaction, which if present should make us gravely suspicious, yet we should not forget that the feigner might have dropped atropin in the eyes to offset any suspicion, so that the facial expressions are important and should be carefully watched when the light is thrown upon the eye. This, of course, would apply to binocular amblyopia more than monocular. Though infrequent, this type is sometimes met with. Most often they simulate a high degree of amblyopia, either bilateral or unilateral.

The patient is made to look with the blind eye at his own hand, which he holds in front of him. A blind man will not hesitate to do this since he knows the position of his hand by the sense of feeling; a malingerer will purposely look in the wrong direction. Then take a minute object as a pin, and hold it in front of patient, and by accommodation both eyes will react. Then cover the blind eye and it should not react if blind. A pencil held between the sound eye and a book will conceal certain words if the other eye is blind. But if the second eye is good, it does not interfere with the reading as he unconsciously reads with the other eye. A prism of 10 to 14 degrees held in front of one eye and then moved away will cause the supposedly blind eye to move on account of fixation. A prism of 4 degrees apex up over the apparently blind eye will produce vertical diplopia and the patient cannot read with it; with this over the eye he is told to walk upstairs. This he cannot do on account of the diplopia. Of course, if the eye is amblyopic, it will have no effect.

By putting a 6.0 D. sph. over the good eye and having the patient read, move a paper slowly away and then cover up the bad eye, he being unable to read with a 6.0 sph. shows he is reading with the bad eye. A 5.0 cylinder axis vertical is held over one eye and the same cylinder axis horizontal over the other, then mark a number of parallel lines horizontal and a number of them vertical, and he can count one line of them with one eye and the other with the other eye. Seeing with both eyes would confuse him. Put a strong cylinder over the bad eye and nothing over the good eye, and turn the cylinder. If the patient is made to look at a square, it will change its shape.

A test that I employ most is to put a prism of 4.0, 5.0, or 6.0 degrees base up or down, and a plain glass over the other eye, then have the patient look at a vertical line with a dot on it and he will see two dots, one below the other. With one eye blind he could only see one dot. I then walk him in the dark room and ask, "How are the lights situated?" When he tells me, he must see with two eyes, for if one eye is blind he can only see one light.

A plus 6.0 cylinder axis horizontal over one eye and a vertical over the other will give an elongated square if one is blind.

If a box be fitted with two mirrors at an angle of 120 degrees meeting at the center, with two holes opposite the mirrors to look through the box, and an object in front of each mirror, he will be confused when told to look in the box, because he will see with each eye the object opposite the other eye. Now a curtain can be added to it to cut off one eye at a time to make the test more certain. A number of this type have been constructed all on the same principle, but unnecessary to describe.

The color tests often deceive the malingerer. For instance, place a red glass over one eye and a green one over the other, then have a test card with red and green letters; if he can read it correctly, he does with both eyes, as through the red glass red letters alone can be seen, because green is the complementary color of red, therefore green rays are not transmitted through red glass.

Yellow as well as red letters are defaced by red so that these three colors may be used instead of the two, and confuse the malingerer still more.

A light blue glass over one eye and a dark blue one over the good one will make everything look blue, and when he is told to read, he must do so with the eye supposed to be bad.

It is well to record accurately the subjective examination because a second examination will probably not give the same results, and one should never forget that it is of most importance to watch the eyes of the patient, so that he cannot close one or the other quickly enough to catch on to the correct reply. I have seen patients who could read 20 c.c. with the bad eye, and on being brought ten feet closer to the test card, say he could see no more, when we know he must see more. Only recently I examined a man whose eyes were injured in an accident. He could read 20 lxx with the bad eye, and when I brought him ten feet closer to the card, he said he could see no more. I then changed test cards and he was afraid to admit what he could see. I then had him look through a mirror ten feet in front of him at the letters he had just read, and he, not knowing that he should not see as well, read exactly the same as before, and made the identical mistakes as before. In this case I was able to demonstrate to his attorney that he was a malingerer, who made the patient admit it.

We should always take the field of vision and repeat it to see if it corresponds. Then take it with one eye bandaged, and the second time with both eyes uncovered. Should the bad eye not see, it will naturally not interfere with the first field taken.

A reading chart with all the letters on the line not the same size will also be of service.

It is the cases of exaggerated feebleness of sight that tax our observation greatest, and so here especially we must depend on repeated examinations, each of which should correspond, and most important the malingerer should never know that he is under suspicion.

To recapitulate briefly:

(1) Malingerers seldom simulate total blindness.

(2) Partial amblyopia is most commonly encountered.

(3) Hysteria should always be excluded.

(4) The pupillary reactions are very important, but if absent, atropin may be the cause.

(5) Repeated examinations may be necessary to establish our facts beyond dispute.

(6) The malingerer should never know that he is even under suspicion.

THE TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.*

H. Mason Smith, M. D.,
Chattahoochee, Fla.

In presenting this paper I wish to state in the beginning that I am cognizant of the great amount of literature that has recently appeared on this subject, and I know you are doubtless familiar with the ideas which I am advancing, but the object of my paper is more to show the results from the Swift-Ellis method of treatment in four cases treated by this method at the Florida Hospital for the Insane soon after the treatment was introduced nearly two years ago, and since there have been no relapses in the improved patients so far. I cannot refrain from writing more on the method of treatment that has arrested this incurable process in three out of four cases that received it. I realize that four cases are very few on which to base opinions and draw conclusions, but considering the certainty of the declining and degenerating course of general paresis I regard anything that would

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 25, 26, 1916.

arrest the disease even in one case as worthy of mention.

Since the researches of Noguchi, Moore and other investigators have revealed active spirochetes in the brain and spinal cord of paretics and tabetics, paresis and tabes are no longer considered as meta-syphilitic or para-syphilitic diseases, but as active and advanced syphilis differing only in the areas involved and the advancement of the process. Therefore, the consideration of the treatment of syphilis of the central nervous system will include paresis and locomotor ataxia.

After the discovery of spirochetes in the brain in these conditions the intensive anti-syphilitic treatment for paresis became very popular, but only for a while, until someone injected some stain into the blood, which in no instance was found to color the spinal or ventricular fluid, and soon after this it was discovered that the choroid plexus, which guards the ventricles and spinal canal, has a selective action, and does not allow the anti-bodies and medicinal agents in the blood to enter the ventricular or spinal fluid. Then the various workers began looking for a method of administering medicines which would reach the brain and cord. In order to accomplish this the medicinal agents must be mingled with the cerebrospinal fluid. Thus it was that the intraspinous route of medication was opened up.

Weed has proved beyond a doubt that medicinal agents, especially serum containing salvarsan, does not reach the convexities of the brain. He demonstrated that when ferrocyanide solutions are injected into the spinal subarachnoid cavity, and continued for one hour at a pressure slightly above the normal spinal fluid pressure, the granules are found in the basilar cisternæ, that a few are found at the convex surface of the hemispheres, and that the same results are obtained by withdrawing the cerebrospinal fluid and injecting an equal amount of ferrocyanide solution. Therefore, if after the withdrawal of spinal fluid, an injection of 30 or 40 c.c. is given intraspinously, under moderate pressure, there is little doubt of it reaching the convexities of the brain.

Marinesco, I believe, was the first to give an intraspinous injection in the treatment of syphilis of the central nervous system. He injected into the spinal subarachnoid cavity the blood of syphilitic patients previously treated with salvarsan. Others following this idea administered intraspinous injections of mercury cyanide in salt solution. Others gave minimum doses of salvarsan by the same method, and numerous other agents were then tried until Swift and Ellis of the Rockefeller Institute devised a treatment which has grown popular among the workers in this line, and the cases which I am reporting today have been treated by this method with some modifications.

Technique.

The technique employed at the State Hospital was as follows: Old salvarsan was administered every four days until six injections were given, then they were given at intervals of six days. After the sixth treatment the intraspinous medication began. Twenty minutes after the intravenous injection of salvarsan, at which time the salvarsan content of the blood is supposed to be at its highest, 50 c.c. of blood was withdrawn from a vein, with a large bore needle, into a sterile side necked 100-c.c. test tube and there allowed to clot. Then it was placed on ice over night. The following morning the clear serum was drawn off into a sterile container and diluted to a 40-percent solution with normal saline. Then, the serum being ready, the lumbar puncture was made, the spinal fluid allowed to flow until the pressure was very low and there was considerable interval of time between the drops. Then with a syringe of large calibre, which was filled with the diluted fluid and attached to the introduced needle, the serum was injected at moderate pressure. At times a thirty-c.c. Luer syringe was used. To this was attached a rubber tube. The syringe was filled and the serum allowed to

flow into the tube to expel the air. Then the free end of the tube was attached to the needle and the contents allowed to flow into the spinal arachnoid space by gravity.

After each intraspinous injection, the patient was put to bed, the foot of which was elevated for four hours so as to allow the salvarsanized serum to gravitate down the spinal canal to the meninges of the brain. Four of these treatments were given to each patient at six-day intervals, after the sixth intravenous injection at four-day intervals.

The reactions following the intraspinous injections were very slight except in one case of paresis. In this there was an elevation of temperature and a profound stupor for twelve hours after the last two intraspinous injections. In the other cases there was some pain in the lower extremities and slight headache for twenty-four hours.

The cases for the treatment were not selected with any reference to the severity of the degree of advancement of the disease. All four patients were excellent physical specimens, and men of a high degree of intelligence, who occupied prominent positions before their mental breakdown. One was considered as a case of cerebro-spinal syphilis of the vascular type, and the other three were paresis or the parenchymatous form of cerebral syphilis.

Special attention was given to the Wassermann tests of both blood and spinal fluid, also to the cell count and globulin content of the fluid in all the cases. The cell counts were made with the Fuchs-Rosenthal counting chamber, and Kaplan's butyric acid method was employed for the determination of the globulin content.

Report of Cases.

H. F. S.; white man; married; merchant, age 37; admitted October 26, 1915. Mental symptoms were first displayed January 1, 1913, when after a spell of the blues, he attempted suicide by cutting the ulnar and radial arteries. He recovered from this attack of depression and from the injuries received in the suicidal attempt and for a short time was apparently normal with the exception of frequent nocturnal headaches. Soon afterwards, however, he began to show a lack of judgment in business affairs, which resulted in a considerable loss of money to the firm of which he was a member. He became depressed more often, began to wander aimlessly about, showed an indifference about business affairs and considerable loss of memory. He became very irritable and childish and finally displayed delusions of persecution and attempted to revenge the imaginary wrongs which had been done him.

On admission to the hospital he manifested symptoms of paresis, such as an Argyle-Robinson pupil, diminished tendon reflexes and considerable muscular incoordination, and the diagnosis of paresis was confirmed by the laboratory, which reported positive Wassermann of both blood and spinal fluid, excess globulin content and a cell count of 20 per ccm., mostly lymphocytes. He was put on an anti-syphilitic treatment, but continued to grow more demented until he had completely lost all judgment and insight. He became disoriented and the depression with which he was suffering on admission was displaced by a very intense maniacal excitement. This was his mental condition when the Swift-Ellis treatment was instituted in the first part of March, 1915. The physical condition of this patient began to improve with the first dose of salvarsan, but no mental improvement was observed in the patient during the course of intravenous injections, but when the intraspinous administrations of salvarsanized blood serum were instituted, he was in better physical health than when his mental symptoms began one and one-half years previously. There was, however, mental improvement with the first injection of the serum. The excitement subsided and he began to be oriented. He knew where he was. There was no improvement in insight as he did not know why he was in the hospital. This improvement continued with

each treatment, and when the treatments were completed, he was very well oriented, and his insight was good, but his judgment was still unbalanced. At this time his pupilary reflexes became nearly normal and the tendon reflexes completely so. He left the hospital the following August, since which time he has remained at home and partially earned a living as a salesman in a department store. He becomes gloomy and depressed at times and a little careless, but he has never become so bad at any time as to have to quit work for a day.

G. I. D.; white man; age 45; real estate dealer; married; admitted November 24, 1914; history initial lesion of syphilis twenty years before. The classic symptoms of paresis, both mentally and neurologically, were displayed on admission to the hospital. There was considerable muscular incoordination and speech disturbance. The diagnosis was confirmed by the laboratory in a positive Wassermann of both blood and spinal fluid. Cell count was 20 per cmm. and there was excess of globulin content.

He was of the expansive type of paresis, was disoriented, and there was complete loss of judgment and insight. He was in a state of general euphoria and displayed grandiose delusions of the most pronounced type. The patient was placed on specific treatment, but continued to grow more debilitated and demented until he was placed in the nursery where he lapsed into an apathetic state of mind and would sit in one position for hours, at which time nothing would attract his attention. He had to be fed and cared for as a baby. This depression would alternate at frequent intervals with an agitated state of mind. The Swift-Ellis treatment was started the first of March. No improvement was observed until after the intraspinous injections of salvarsanized blood serum were given when he began to brighten up and notice things. At the completion of the fourth injection he was placed in a ward with the mildest type of patients in the institution. Improvement continued until he left the hospital furloughed by his wife the following November. At that time the pupilary and patella reflexes were about normal, and there was no muscular incoordination or speech disturbances. Since leaving the hospital, this patient has done odd jobs, such as carpentering, painting and clerking in a furniture store. He has done his work fairly well and maintained a comparatively cheerful disposition. Socially, he has taken the same position he formerly occupied.

T. S. A.; white man; age 31; married; railroad engineer; admitted April 2, 1915; showed the classic symptoms of paresis together with very violent tendencies, and the diagnosis of paresis was confirmed by the laboratory. The patient was intensely excited on admission and displayed delusions of persecution and hallucinations of feeling and hearing. He was immediately put on the Swift-Ellis treatment, but never showed any improvement physically, mentally or serologically. The Wassermann of the blood and spinal fluid was never reduced. It is quite probable that the syphilitic lesion of the brain in his case was a gumma situated in the deep parenchyma of the cerebrum and was there surrounded by a wall of a neuro-fibros nature which protected the contained spirochetes from the injected serum and anti-bodies, but through which exudation would pass, so that the Wassermann would not be reduced. This patient is at present in the hospital in a deeply demented condition and the course of his case has been one of typical paretic decline so often described in the textbooks. This is the only case in the series in which no improvement occurred.

J. C.; white man; age 25; married; druggist; admitted April 4, 1914; alleged cause of insanity, drug addiction; history of initial lesion unascertained. For about a year and a half prior to his admission this patient became careless wth his business affairs and his moral habits and began drinking heavily. About this time he had such severe nocturnal

headaches that nothing but morphine would give him relief. Hence his drug addiction. This patient suffered a stroke of paralysis in November, 1913. He first showed mental symptoms about sixteen months afterwards in the form of delusions of persecution, all centered about members of his family, and he on several occasions made threats and attempts of violence against his brother-in-law, who was a prominent physician in that community.

On admission to the hospital, his mentality was not badly affected. He had lost his judgment largely, but his insight was fairly good and there was no loss of orientation. There was some muscular incoordination, and he was very careless, irritable and childish. His blood gave a negative Wassermann reaction, his spinal fluid a positive reaction; cell count was 200 per cmm.; globulin in excess; with these findings a diagnosis of syphilis of the central nervous system was made, and the Swift-Ellis treatment was instituted. Improvement was noted on completion of the treatment, when the spinal fluid gave a negative Wassermann. The cell count became diminished to 15 per cmm. The patient left the hospital furloughed by his wife August 1, 1915.

Since his furlough he has been employed as a druggist and has done his work fairly efficiently and is now in the Marine Service. This case, which was doubtless one of cerebral syphilitic endarteritis, with mild meningeal involvement, which, if allowed to advance without treatment, would doubtless have become a case of paresis, possibly associated with cerebral sclerosis, and the prognosis would have been acutely unfavorable.

Conclusions.

In reviewing these cases and summarizing the results, with the knowledge that all syphilitic infections of the central nervous system terminated fatally in from two to seven years until this method of treatment was introduced, one can not refrain from being optimistic. It means that we are in the dawn of a new era in neurology, that there is a light in the East which presages a day when paresis and locomotor ataxia will become amenable to physician's treatment, and no longer will the paretic and tabetic read over the gates of the insane asylum: "Abandon hope, all ye who enter here."

Of the four cases treated, three are now at home taking their places in society and partially earning their own living. The mentality of these men has not been completely restored as the brain tissue destroyed by this degenerative disease can not be reproduced, but these patients, who had been placed in an institution as hopeless and incurable, have gone back to their homes and they are earning livelihoods for their families. It is not my purpose to leave the impression that these cases are cured, but the disease has been arrested now for over eighteen months and so far the course has been one of improvement for all. They may at some time have a relapse as there may be in the brain some syphilitic process, which nature in a compensatory effort has walled off so that the contents were protected from the salvarsanized serum and the spirochetes contained therein escaped injury. The walls of this process or gumma may at any time be broken down and set the spirochetes at large and they will immediately become active. For this reason patients of this kind are advised to have Wassermanns of both spinal fluid and blood made every six months and the treatment repeated if the serological findings indicate it.

If they should relapse into the demented type, at present, the fact that three paretics have been given eighteen months of nearly normal life in itself is remarkable.

The most favorable cases for this treatment are the incipient cases of cerebrospinal syphilis or paresis, when the infection and syphilitic process is in the meninges, and has not penetrated into the deep parenchyma of the brain. However, the advanced cases are worthy of a trial, and if the process is not too deeply hidden, or if the infection

is within reach of the cerebro-spinal fluid, some improvement can at least be hoped for, and at any rate for cases of this nature, this is the most rational procedure and offers more hope than any method yet advanced.

URINALYSIS.*

F. A. Brink, M. D.,
Pensacola, Fla.

The purpose of this paper is to urge upon you the need of more frequent examination of the urine. One almost feels like offering an apology for taking up the time to discuss so commonplace a topic, but urinalysis is so useful an aid to diagnosis, is carried out with so little difficulty once one acquires the habit, and is so often neglected that one may be pardoned for discussing it once more.

We are bound by duty to our patients to utilize every means of arriving at a correct understanding of their ailments; our individual standing with our patients and with the profession is at stake, and we owe it to the high calling of medical practice to use every available means of advancing the ideals for which it stands, the alleviation of human ills and the promotion of human well-being.

Too often that part of an insurance examination which relates to urinalysis is filled out without the remotest knowledge, on the part of the examiner, of the applicant's renal activity. Early signs of Bright's disease or diabetes are missed, the applicant becomes an early loss to the company, and a black mark is scored upon the examiner's record in insurance circles.

Too often the oculist beats the general practitioner to a case of nephritis by virtue of the findings with the ophthalmoscope, and too often patients pass the curable stage of kidney disorder, when they could have been saved had their condition been discovered in its incipiency.

One other reason for discussing this subject with you is that it is one of the laboratory operations that the State Board of Health laboratories do not carry out as a routine procedure.

Some men who do a general practice find time to carry out their urinalyses in a most complete manner, or they have a trained assistant who does it for them. I do not propose to cover this entire ground of urinalysis, but rather to take up some of the tests that every practitioner should carry out regularly. For instance, I shall not discuss the determination of total nitrogen, urea, uric acid, creatinin, fatty acid, the more rare carbohydrates, or the ferments.

Everyone, however, should acquire the habit of careful inspection of urine. If it is noted to be cloudy, one will be interested to resort to the microscope and to chemical reactions to determine the cause of the cloudiness. If he observes a color suggestive of blood or bile, he will wish to know for a certainty whether there is blood or bile in the specimen, or if the specimen is merely high colored from being concentrated. The reaction and specific gravity should be determined, and this can be done in a moment. The degree of acidity can be estimated from the rapidity of the change in color of the litmus, and the intensity of the red. The density of urine often leads one to further investigation, though too much stress may be placed on the so-called normal specific gravity limits. A specimen in which the gravity is 1.010 may contain considerable glucose, while one of 1.030 may be sugar-free.

The tests for sugar and albumen and the microscopical examination are, without doubt, the three most important steps in any urinalysis.

Fehling's reagent seems to be the most popular means of testing for sugar. It has been my habit to make it up in two portions, the alkaline solution and the copper solution. The two are mixed, half and half, before using. This mixture is then heated to boil-

---

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 25, 26, 1916.

ing and the urine added. I find it to be a good stunt to boil the urine also before mixing it with the Fehling's. Here we have a specimen which contains sugar and, as you see, there is an immediate precipitation when it is added to the hot Fehling's.

For the albumen we have several convenient tests. Heat and nitric acid or Heller's test are both good, but a most delicate and convenient reagent is made up after Robert's formula. It consists of saturated watery solution of epsom salts, five parts, and strong nitric acid one part. This is a contact test carried out just as the Heller's and a convenient way is to place the urine in the test tube first and put the reagent under it with a long dropper.

You will find under the microscope several specimens: one shows casts and uric acid crystals, one shows blood and in one there are few pus cells.

GLANDULAR TUBERCULOSIS OF CHILDHOOD.*

D. W. McMillan, M. D.,
Pensacola, Fla.

In view of the fact that 85 per cent of all tubercular infection occurs in childhood, the more carefully we consider this phase of the matter, the more successful will be our efforts in attempting to solve the ever-pressing problem of tuberculosis, our most formidable enemy.

One hundred and sixty thousand deaths per annum are from tuberculosis in this country. Nearly a million diagnosed cases under the care of a physician, to say nothing of the vast number of cases unrecognized! It exacts a greater toll of human life, produces greater economic waste and lowers human efficiency to a greater degree than any other factor in human life.

When one speaks of glandular tuberculosis, the average practitioner at once has in mind the cervical glands. If upon examination of these glands he discovers enlargement, he begins to talk of tubercular infection or strumous diathesis. As a matter of fact, tubercular infection is rarely, if ever, present in enlarged cervical glands. These enlargements are due to other causes, such as parasitic infections of the scalp, bad teeth, tonsilitis, impetigo contagiosa, streptococci or staphylococci or mixed infections. The causes of glandular tuberculosis are bovine in origin. Not always due to the cow's milk, but frequently caused by the dried feces upon the cow's tail switched into the milk. The glands most frequently involved are those along the trachea; these are the ones most frequently followed by pulmonary tuberculosis in later life. If the tubercle bacilli gain entrance to the bronchi, there is usually a lung focus either subpleural or bronchial. These are frequently walled off and remain dormant for long periods. In addition to the bronchi, the epitrochlear glands are often the site of infection. They may be often found at the bifurcation of the trachea. There are three stages: primary, secondary and tertiary. The tertiary stage is the stage of pulmonary tuberculosis.

Signs and symptoms. The child complains of pains in the chest. Often there is cough, dry or brassy in character, sometimes it simulates whooping cough. Frequently the glands are rather large and press upon the recurrent laryngeal nerve, producing voice disturbance and accentuating the cough. Rarely the glands undergo degeneration, their contents are absorbed, a severe toxemia results, sometimes terminating in miliary tuberculosis.

Inspection. The patients are frail in appearance, they may have a good appetite, but they are apathetic, listless, disinclined to play. The veins of the temples and chest are dilated, skin is dry, the hair fine, dry and brittle.

Palpitation. With one hand upon the spine and the other hand upon the chest, palpating will elicit pain and tenderness.

---

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 25, 26, 1916.

Observe the patient's face, while making the examination, for facial expression of pain. One should remember that pain on pressure over the fourth spinal vertebræ is present in heart lesions in children; however, there are other symptoms present, which taken in connection with the clinical history, will render a differential diagnosis easy. The third to sixth spinal vertebræ are the most painful points. Pressure on a line between the scapula and the spine also causes pain. Careful palpation, with tips of fingers, reveals muscular resistance or rigidity.

Percussion. Anteriorly along the sternum, the second and third intercostal spaces, the percussion note is impaired. Upon percussing posteriorly, there is a high pitched note from the seventh cervical to the first dorsal. From the first dorsal to the fourth dorsal vertebræ, the percussion note is dull, increasing in dullness to the fifth, sixth and seventh vertebræ.

Auscultation. You have broncophony and an accentuated whispered voice sound down to the seventh or eighth dorsal. There is an echo following the whispered voice sound. Auscultation of either side gives similar findings. If enlarged glands are anterior, place the patient's head in a retracted position. Auscultation over the sternum gives a humming sound, due to pressure of enlarged glands upon the innominate vein. The diagnosis may be confirmed by the X-ray when parents will permit. You can employ a third diagnostic measure. An injection of one-half milligram of tuberculin, if glandular tuberculosis is present, causes a rise of temperature of from one to one and one-half degrees, rapid pulse, pain in chest, loss of appetite and malaise. The use of an endoscope in the trachea may reveal a bulging tubercular gland. This is a dangerous procedure, so be very careful in doing it. Pain upon swallowing is another symptom. If glands are calcareous, or much caseation has taken place, the X-ray gives a good shadow. Enlarged mediastinal glands give cause to frequent nosebleed. When employing tuberculin for diagnostic purposes, it is best to use the morro tuberculin ointment in children from six months to two years of age, the Von Pirquet from the third to tenth year. In children past the tenth year, the intracutaneous injection of tuberculin is best.

Prophylaxis. A careful regulation of hygiene, diet, sleep, nutrition and systematic and physical development is indicated. A careful building-up of vital resistance by every means at hand. The most important of these preventive measures is the boiling of milk and cleanliness in handling it. A great deal has been said about milk inspection. The appointment of milk inspectors has been urged in every community. This is impractical in many cases. Even in the large cities, where milk inspection is carefully made, where certified milk is obtainable, the results have not been satisfactory. Dr. Grulee and other specialists in diseases of children always insist that the milk should be boiled. Pasteurization is insufficient. Boil the milk for five minutes. Only two objections can be raised against boiling milk. It sometimes produces constipation. In these cases the time of boiling can be reduced to three minutes. The other objection is that the continued use of boiled milk may produce rickets. Rickets never makes its appearance before the fifth and usually the sixth month. It is quickly cured by giving fruit juices.

Treatment. Place the patient in the most favorable environment. Fresh air and open-air life. Exposure to the direct rays of sunlight, as these rays are very stimulating and in addition produce certain chemical changes. It is necessary to cover up the patient, exposing only a small part of the body in the beginning. First the feet, then the legs, then the hands and arms and finally the trunk, protecting the face and eyes. Salt

air is also beneficial, the seacoast, plenty of sunlight and open air being an ideal combination. Open-air schools should be established for these children. Good nourishing food, with a fairly high proteid content and plenty of oil and fat. Cod-liver oil is very good, but most children will refuse it. Olive oil is an excellent substitute. If anemic, syrup of the iodide of iron is indicated; tincture of iodine is our best single remedy. Commencing with one drop in milk after meals and increasing one drop per dose per day, according to age. The dose may be increased to thirty, forty or sixty drops three times a day, in a glass of milk after meals. This is an old remedy, but in the last few years has been popularized by Dr. Ritter, of Chicago. I might say in passing that thirty to forty drops of tincture of iodine in a glass every three or four hours is our best remedy in erysipelas. Tuberculin inunctions is an excellent addition to our treatment. As it is impossible to exactly estimate a patient's tolerance for tuberculin, it is necessary to keep well below this point. Dr. Ritter advises old tuberculin, five drops in glycerine—one ounce. One drop is rubbed well into the axilla every night. After pursuing this treatment for a few weeks, we begin to get an immunization manifested by a general improvement.

As I have said, 85 per cent of the cases of tuberculosis can be traced to infection in childhood. These foci may be encysted or walled off and then along about the seventeenth or eighteenth year, social or other forms of dissipation, loss of sleep, poor hygiene, anything, in short, which lowers vital resistance, precipitates an active infection. The protective barriers are broken down, the tubercle bacilli gain an entrance to the lymph stream, or blood current, and we have pulmonary tuberculosis.

Let it not be forgotten that untreated glandular tuberculosis of childhood is the pulmonary tuberculosis of adult life.

SOME OF THE RECENT IDEAS ON INFANTILE PARALYSIS.*

J. H. Fellows, M. D.,
Pensacola, Fla.

In presenting this paper, I do not profess originality or claim to have done any research work. Much of it is gathered from the monograph of the Rockefeller Institute and some of it I gathered at the New York clinics. I want to review briefly the recent developments of acute anterior poliomyelitis, especially as regards pathology symptoms and treatment. Infantile paralysis is an acute systemic infection, affecting chiefly the cerebral and spinal meninges, anterior horns of the cord and to a less extent the lymphatics, liver, spleen and other viscera.

It is caused by a filterable virus which has been found in the nasal and tonsil secretions and also in intestinal excreta, and is conveyed by human beings and probably by objects such as bed linen, clothing, domestic pets and insects, such as flies. It may also be conveyed by dust. It will resist heat and cold to a remarkable degree. Its portal of entrance to the human body is believed to be the respiratory tract.

Pathology. There is an inflammation of the meninges of the brain and cord, these coverings being much injected and edematous. Intraspinal tension is usually increased. The gray matter is darker than normal and sometimes there will be found minute hemorrhages in both the gray and white matter. The cellular elements of the spinal fluid are increased. Degeneration of the nerve cells, especially of the anterior horn, is often found, possibly due to pressure and to the toxic effects of the virus. The lymph glands are enlarged. The liver and spleen on section show areas of degeneration.

The symptoms will depend in a measure on the type with which we are dealing. Many classifications have been given. I

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 25, 26, 1916.

think, however, three types are generally recognized clinically. The first: The lower motor neuron type, or the type in which there is a flacid paralysis. The second: The upper motor neuron type, a type in which there is a spastic paralysis. Thirdly: The abortive type, in which there is no paralysis, or where paralysis occurs and passes off within a few hours. In most cases there are fairly constant and definite symptoms. After a period of incubation of five to ten days (this may be much longer or shorter), there is a period of prodromal symptoms which may be very mild, such as a slight elevation of temperature, drowsiness and irritability; sometimes the patient will vomit once or twice. The symptoms may be so slight as not to attract much attention, or may be so marked that medical advice is sought. The severity of the prodromal symptoms seem to bear no relation to the subsequent course of the disease. Fever is usually present and ranges from one hundred to one hundred and three or higher. Another constant symptom is stupor or drowsiness. The child is apathetic and wants to sleep; is irritable on being aroused, and cries on being handled and complains of pain on passive motion of the limbs. Another symptom is spinal tenderness; that is, the patient cries if the head is flexed. Rigidity of the neck is an early symptom of acute poliomyelitis; sometimes slight and sometimes marked. It will be noticed that the patient will throw its head back when raised from the bed. Kernig's sign is usually found and produces quite a bit of pain. Pain in the limbs and back of head is often complained of. Very often before paralysis occurs there will be weakness of one or more limbs. The child will refuse to stand, or sometimes will stand on one foot, or it will be noticed it fails to use one hand. Muscular twitching will sometimes be noted. Constipation is the rule. Three types of pain have been described: First, spontaneous pain; second, pain caused by manipulation or passive motion of parts; third, pain caused by pressing parts.

Paralysis. This is often very unsystematic in its distribution. In one case, one or more limbs will be paralyzed; in another one side of the face, and still another, the muscles of the abdomen or muscles of respiration will be caught. The abortive cases or cases in which no paralysis occurs are the most dangerous to the public because they go unrecognized and so spread the infection. They have the same spinal findings as other cases.

The spinal findings are usually constant and will surely be the means to help make sure our diagnosis. A lumbar puncture should surely be made in all cases that are in the least suspicious. It is easily performed and is practically without danger to the patient. We usually find a clear fluid under some tension. The examination of the fluid will show an increase in the cellular elements. The cell count ranging from twenty-five to several hundred per cmm. The large mononuclear cells are in excess of all others. A positive globulin reaction will always be found. This test is made by the Noguchi-Butyric acid method which is indicated as positive by a floculent precipitate. The spinal fluid will also reduce Fehling's solution.

Prognosis. This is usually good unless there is a severe meningitis or the respiratory muscles are involved.

Treatment. The same precaution should be taken with infantile paralysis as with other acute infections. The patient should be isolated, quarantined, and kept as quiet as possible. The room should be screened, well ventilated and kept as nearly as possible at an even temperature. A lumbar puncture would surely be made as it will relieve the pressure, will probably prevent paralysis, and if carefully done, is void of harm. If the symptoms are severe human serum, if possible from a person who has had the disease, should be given into the spinal canal. The dose should be less than that drawn from the patient, and should be given by the gravity method. Some repeat this in

twelve to twenty-four hours, but I think the best results have been obtained where only one dose was given as the reaction is sometimes severe. If paralysis has occurred, the paralyzed part should be supported and should also be protected from heavy bed clothing, usually by a cradle. Massage of the paralyzed parts should be started as soon as the pain and tenderness disappear.

PROPAGANDA FOR REFORM.

Fulton's Compounds. — A "Bulletin" sent out by the promoters of Fulton's Renal Compound and Fulton's Diabetic Compound gives an account of the alleged good results of the treatment in the case of a Mr. J. J. Pennepacker. The columns of a local newspaper announce the amputation of this man's leg for diabetes. (*Jour. A. M. A.*, Jan. 29, 1916, p. 373.)

The U. S. Pharmacopœia, IX. — The ninth revision of the U. S. Pharmacopœia became official Sept. 1, 1916. It is a book of standards for drugs, but it is not a book of standard drugs. The pharmacopœia includes substances which have been shown to be inert like the hypophosphites, complex and absolute mixtures like the compound syrup of sarsaparilla, and drugs which have been tried and found wanting like saw palmetto berries. There is one great advantage in specifying U. S. P. preparations: to do so is to invoke legal standards of identity and purity. The only way to be sure of obtaining substances of therapeutic efficiency, however, is to exercise discrimination; the pharmacopœia is no guide to therapeutically valuable drugs. (*Jour. A. M. A.*, Sept. 2, 1916, p. 750.)

The New National Formulary.—The National Formulary, fourth edition, becomes official September 1. It is published by the American Pharmaceutical Association. The preface says frankly: "The scope of the present National Formulary is the same as in previous issues, and is based on medical usage rather than on therapeutic ideals. The committee consists entirely of pharmacists, or of men with a pharmaceutical training, and it cannot presume either to judge therapeutic practice or follow any particular school of therapeutic practice. The question of the addition or deletion of any formula was judged on the basis of its use by physicians and its pharmaceutical soundness. The considerable use by physicians of any preparation was considered sufficient warrant for the inclusion of its formula in the book, and a negligible or diminishing use as justifying its exclusion." The National Formulary contains a large number of formulas for preparations which in the main are complex and superfluous. From the pharmacist's point of view, the book is a valuable one. Physicians who have a scientific training in the pharmacology of drugs will not want it; others will be better off without the temptations offered by its many irrational formulas. (*Jour. A. M. A.*, Sept. 2, 1916, p. 764.)

The Hypophosphite Fallacy. — The Council on Pharmacy and Chemistry reports that the introduction of hypophosphites into medicine was due to an erroneous and now discarded theory as to the cause of tuberculosis and the properties of the hypophosphites. After a review of the literature and in view of experimental work the Council concludes that there is no warrant for the use of hypophosphites in medicine, unless it be to secure the calcium effect from calcium hypophosphite and the ammonium action of ammonium hypophosphite. The Council reviews the claims made for the following and declares them ineligible for New and Nonofficial Remedies: Fellows' Syrup of Hypophosphites, Fellows, Medical Mfg. Co., Syrupus Roborans (Syrup Hypophosphites Comp. with Quinin, Strychnin and Manganese), Arthur Peter and Co., Schlotterbeck's Solution Hypophosphites of Lime and Soda (Liq. Hypophosphitum, Schlotterbeck's), the Schlotterbeck and Foss Co., Robinson's Hypophosphites, Robinson-

Pettet Company, Eupeptic, Hypophosphites, Nelson, Baker and Co., McArthur's Syrup of the Hypohosphites Comp. (Lime and Soda), the McArthur Hypophosphite Co. Though in general no therapeutic claims so far as the hypophosphites are concerned are made for the following, the Council held their use irrational and directed their omission from New and Nonofficial Remedies which now describes them: Borcherdt's Malt Olive with Hypophosphites, Maltzyme with Hypophosphites, Maltine with Hypophosphites and Maltine with Olive Oil and Hypophosphites. (*Jour. A. M. A.*, Sept. 2, 1916, p. 760.)

Pulvoids Calcylates.—The Drug Products Co., Inc., New York, markets tablets under the name "Pulvoids Calcylates 5 gr." with claims as to composition which, though vague, suggest that the product is a mixture of calcium salicylate and strontium salicylate. The Council on Pharmacy and Chemistry found that there was no evidence that a mixture of the salicylates of calcium and strontium is superior to sodium salicylate and declared Pulvoids Calcylates ineligible for New and Nonofficial Remedies because unwarranted therapeutic claims were made for the mixture, because the name does not describe the composition, and because the mixture is an unessential modification of an established remedy (sodium salicylate). (*Jour. A. M. A.*, Sept. 9, 1916, p. 827).

Glyco-Thymoline and Poliomyelitis. —The manufacturers of Glyco-Thymoline are circularizing physicians, advising dependence on Glyco-Thymoline as a preventive against poliomyelitis. A report of the Council on Pharmacy and Chemistry pointed out that this preparation is simply a weak antiseptic, so feeble that even in full strength it does not kill *Staphylococcus aureus* in four hours and is of little, if any, greater therapeutic value than sterile salt solution. (*Jour. A. M. A.*, Sept. 16, 1916, p. 895.)

Bi-Taride Tablets. — These are dark brown tablets with a strong tarry odor, sold by the Germicidal Products Corporation, New York. The Council on Pharmacy and Chemistry reports that the preparation was found ineligible for New and Nonofficial Remedies because the composition of the tablets is essentially secret, because the therapeutic claims made are exaggerated and an invitation to the public to depend on them in serious diseases and that the combination of coal tar derivatives and boric acid (said to be constitutents of the tablets) is irrational. (*Jour. A. M. A.*, Sept. 16, 1916, p. 895.)

Secretogen.—The Council on Pharmacy and Chemistry has reported that commercial secretin preparations examined (Secretogen and Duodenin) contained no secretin and also that secretin is inert when given by mouth. While practically admitting the correctness of the Council's findings, the manufacturer of Secretogen (The G. W. Carnrick Co.) in a letter to the Council sets forth the company's claims for Secretogen on a new and altogether improbable basis. Since the arguments are purely speculative, the Council reaffirms its previous action declaring this preparation ineligible for New and Nonofficial Remedies. (*Jour. A. M. A.*, Sept. 9, 1916, p. 828.)

Arsenobenzol and Diarsenol. — The Council on Pharmacy and Chemistry reports that it found Arsenobenzol, made by the Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia, and Diarsenol, made by the Synthetic Drug Company, Toronto, Canada, substantially identical with salvarsan in composition, and equal to salvarsan in therapeutic efficiency. The Council reports that these products have not been admitted to New and Nonofficial Remedies because there is a doubt as to the legality of their sale in the United States. But for this doubt as to their legal status, both products would be entirely eligible to N. N. R. (*Jour. A. M. A.*, Sept. 16, 1916, p. 879.)

The Therapeutic Value of the Glycerophosphates.—In view of the very convincing evidence that the glycerophosphates do not possess the therapeutic properties attributed to them and are not superior to ordinary phosphates, the Council on Pharmacy and Chemistry examined the following proprietary glycerophosphate preparations: Tonols (Schering and Galt) comprising Iron, Lime, Lithium, Megnesium, Manganese, Potassium, Quinine, Sodium, and Strychnine "Tonols," Duotonol Tablets, Triotonol Tablets, Quartonol Tablets, Sextonol Tablets, Phosphorcin Compound (Eimer and Amend), Robinol (John Wyeth and Bro.), Phosphoglycerate of Lime (Fougera and Co.), Elixir Glycerophosphates, Nux Vomica and Damiana (Sharp and Dohme). The Council reports that unwarranted therapeutic claims are made for all of these preparations. In addition the composition of Robinol and Elixir Glycerophosphate, Nux Vomica and Damiana is semi-secret, and Tonols, Phosphorcin Compound and Robinol bear objectionable names. (*Jour. A. M. A.*, Sept. 30, 1916, p. 1033.)

Sulfuryl Monal.—According to the label these "pastilles" contain "Suluryl" (combined polysulphurets) which "liberates nascent sulphuretted hydrogen." The A. M. A. Chemical Laboratory reports that the tablets had the taste of licorice extract, an odor of hydrogen sulphide and that a tablet liberated about 6 c. c. hydrogen sulphide. The Council on Pharmacy and Chemistry reports that sulphides are practically ignored in modern textbooks and declared Sulfuryl Monal ineligible for New and Nonofficial Remedies because unwarranted and dangerous therapeutic claims were made for it. (*Jour. A. M. A.*, Sept. 16, 1916, p. 894.)

Naphthalene for Automobiles.—The A. M. A. Chemical Laboratory reports that "Inajiffi" tablets are pure, or nearly pure naphthalene. The tablets are to be added to gasoline for automobiles, etc. The increase of energy produced by the addition of the tablets is probably too slight to be appreciable. Even the addition of the small quantity advised by the dealers of "Inajiffi" did give an appreciable augmentation of energy, naphthalene might be bought in the form of moth balls. (*Jour. A. M. A.*, Sept. 16, 1916, p. 897.)

Mark White Goiter Treatment.—The Council on Pharmacy and Chemistry reports that Mark White Goiter Serum and Mark White Iodinized Oil, submitted by the Mark White Goiter Serum Laboratories, Chicago, was not admitted to New and Nonofficial Remedies because the sale in interstate commerce of the "serum" has not been authorized by the Treasury Department, because the statements regarding composition are indefinite and contradictory, because the therapeutic claims were not substantiated and because the routine treatment of goiter is irrational. Mark White is a veterinarian and, in association with various physicians, has exploited his treatment, at one time called "Goiterine" from different cities. In Chicago he has been associated with Dr. Rachel Watkins. (*Jour. A. M. A.*, Sept. 23, 1916, p. 967.)

Kora-Konia.—Kora-Konia is a dusting powder advertised to the medical profession by the "House of Mennen." It is claimed to be indicated in the treatment of acne, dermatitis, eczema, intertrigo, etc., and is said to possess germicidal qualities. The A. M. A. Chemical Laboratory reported that the powder essentially consists of talcum and zinc stearate in about equal proportions to which small quantities of magnesium carbonate and boric acid have been added. The Council on Pharmacy and Chemistry believes that the extravagant and unwarranted therapeutic claims made for this simple dusting powder are likely to lead the public, as well as the thoughtless physician, to place unwarranted confidence in it and therefore declared Kora-Konia ineligible for New and Nonofficial Remedies. (*Jour. A. M. A.*, Sept. 30, 1916, p. 1034.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.
Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.
Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.
GRAHAM E. HENSON, M. D.....*Jacksonville*
ASSOCIATE EDITORS.
THOMAS TRUELSEN, M. D.....*Tampa*
J. K. SIMPSON, M. D.....*Jacksonville*
COLLABORATORS.
RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa.....*Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville.....*Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville.... *Eye, Ear, Nose and Throat*
J. L. KIRBY-SMITH, M. D., Jacksonville...*Dermatology*
E. G. BIRGE, M. D., Jacksonville..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*
OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.
E. W. WARREN, *M. D.*, President ..... *Palatka*
JOHN A. SIMMONS, M. D., First Vice-President .....*Arcadia*
E. VAN HOOD, M. D., Second Vice-President .....*Ocala*
JOHN LONG, M. D., Third Vice-President .....*Lake City*
GRAHAM E. HENSON, M. D., Secretary-Treasurer .....*Jacksonville*
EXECUTIVE COMMITTEE
R. H. MCGINNIS, M. D.....*Jacksonville*
JOHN MACDIARMID, M. D.....*DeLand*
R. N. GREENE, M. D.....*Chattahoochee*
COUNCILLORS.
First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920
Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917
Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917
Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville..1918
Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala..1919
Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa.....1919
Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna.....1918
Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920
Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918
Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia.....1920
Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West.....1917
COMMITTEE ON SCIENTIFIC WORK.
F. C. MOOR, M. D .....Tallahassee
C. D. CHRIST, M. D.....Orlando
F. F. FERRIS, M. D.....Apalachicola

Next Meeting — Atlantic Beach — May, 1917

THE PROPOSED MEDICAL PRACTICE ACT.

The history of the various attempts to regulate the practice of medicine in Florida has indeed been full of work and good intentions. A few men have given much time and thought to overcome exceptional conditions. These men have not had the wholehearted cooperation of the profession much less the people who are most affected. The failure of the various acts to pass the legislature and become laws is due to a misunderstanding by the profession and the people of the actual need existing and the organized opposition active for special privileges. Any legislation specifying special boards for any school is going to make different standards for the admission to practice. A candidate failing before one board has been known to take another and pass the examination. The standards for admission and for examination differ and there is no way to control low-grade medical schools which thrive in the few States left which cannot reject their graduates. Florida is a well-known dumping ground for some of these schools. The bill published on page 193 of this issue has been written by a man versed in the constitutional law of Florida and it has been carefully considered. It is the most fair to all schools and sects of any proposed act that has ever come before the people. A long bill will never pass and this has constantly been kept in mind. It is intended to give each school a fair representation and according to numerical strength the regulars are very liberal. This has always been a great point for contention. The men interested in the passage of the bill in the homeopathic school are men of above the average intelligence and are anxious to cement good feeling and elevate the standards for practice and to protect the people. This legislation is largely for the people and the people must be made to understand. There is no desire to take rights from anyone and of course the bill is not retroactive. If physicians will take the trouble to explain the great need of proper

medical regulation to the people and their representatives and senators before they go to Tallahassee, the votes will be won. The woman's clubs are good places to show the need of better medical laws in Florida. A little talk explaining what it means in terms of life and death will arouse action and existing conditions changed. The present law has no definition of practice, no power to revoke a license, be he criminal, lunatic or drug fiend. The present law has no power to fix a definite standard of training. The law is vague and indefinite and there is no way to protect the people against charlatans and adventurers. In some other States where multiple boards have existed a change to a single board has greatly improved conditions and brought about a genuine fraternal feeling between all schools. It is well to keep in mind that the doctors are asking for nothing the people should not greatly profit by and that we are not a trust or closed corporation but truly unselfish beings. The proposed act is published in this issue of THE JOURNAL for the purpose of familiarizing the profession with the work carried on by our Committee on Legislation and Public Policy. It is the earnest wish of this committee to receive suggestions, and criticisms if there are any, from members of the profession throughout the State. All such communications should be addressed to Dr. F. J. Walter, Chairman Committee on Legislation and Public Policy, Daytona, Fla.

THE RIGHT AND WRONG OF MAKING EXPERIMENTS ON HUMAN BEINGS.

To heal the sick and to prevent disease and death are the services to society to which the physician devotes himself. Just so far as he is capable of performing these functions, he is under obligation to perform them. But the ability of medical men to cure or check disease is often limited because the nature of the disease and suitable methods of treating it are still unknown. On every side the effect of increased knowledge in giving increased power is manifest. Greater knowledge is certain to yield greater ability to restore the sick to health.

Again, just so far as the physician is capable of doing so, he is as much under obligation to secure further knowledge and to diffuse it as he is under obligation to apply his skill to the individual in distress. This duty of learning is the warrant everywhere for the painstaking labors of the medical investigator, whether he is in the laboratory experimenting on animals, or in the hospital thoroughly and critically studying his patients.

The duty of learning, the duty of making advances in diagnosis and treatment, is certain to involve the application of new methods or new medicaments. Fortunately, observations which can be made on animals offer reasonable assurance as to the safety of new procedures before they need to be tried on man. If a promising mode of diagnosis or treatment has been carefully worked out on lower animals, there appears to be no ethical objection to applying it to a human being who is in distress when it is reasonable to believe that its application would be beneficial. Devotion to the duty of learning, however, may tempt investigators to make tests on their patients without due consideration, tests perhaps more likely to be valuable to others than to the person on whom they are made. Or procedures may have mixed values, in part beneficial to the patient, in part beneficial to his fellows. These situations raise an important ethical question: To what limit is the testing on human beings of a previously untried medical agency justifiable?

Just because an operation is a minor one and is very likely to be harmless, there is danger of assuming that the new knowledge to be obtained from testing it justifies the test, even without the consent of the person on whom it is to be tried. Such an assumption is a serious error. There is no more

primitive and fundamental right which any individual possesses than that of controlling the uses to which his own body is put. Mankind has struggled for centuries for the recognition of this right. Civilized society is based on the recognition of it. The lay public is perfectly clear about it. Any hospital official or physician known to commit or to allow violation of the sacredness of the person becomes at once the object of hostility. And the law, as an expression of public conscience, declares that deliberate injury done to the body of another is an assault, and provides severe punishment for it. Society as now constituted will obviously not countenance any operation performed for the satisfaction of the operator or for the assurance of the investigator, whether or not for the immediate benefit of others, unless the consent of the person on whom the operation is to be performed has previously been obtained.

No doubt the justice of this ethical standard is generally recognized in the medical profession, and the spirit of the Hippocratic oath shows that from the earliest times this primary regard for the patient has been the core of the physician's honor. Occasionally, however, reports appear which indicate that investigators have made tests on human subjects which possibly may not have been intended directly for the benefit of the person concerned. In some instances it has not been clear that the consent of the subject was obtained. In other instances, in which dependents have been subjects, the superintendent of the hospital or asylum has been responsible for his charges, and it has not been clear whether he has given his consent or secured the sanction of relatives. It is clearly the duty of the physician to secure the consent of the patient or of the patient's guardian in case the patient himself is not capable of granting consent before performing any mutilating operation. The medical profession is certainly not called on, in any sense, to support the physician who transgresses the elementary principles of ethics.

Especially are the reputation and esteem of medical men endangered by any failure on their part to stand firmly for the fundamental right of the individual to respect for his own person. For the sick commit themselves to the care of the physician and surgeon helplessly and with implicit trust that their welfare alone will be considered. Any practitioner or investigator, no matter how laudable his motives, who fails in scrupulous regard for this trust is liable to do incalculable harm by rousing suspicions, fears and disrespect as to the character of medical service.—*Journal of the American Medical Association.*

Reviews from Current Literature

RUPTURED UTERUS AFTER CESARIAN SECTION

Bell, John N.: Rupture of the Uterus in Cesareanized Women, with a Review of the Literature on this Subject to Date. Amer. Jour. of Obst., Vol. LXXIV, 1916, p. 952.

Bell reviews seventy-eight cases recorded in the literature, adding one case of his own. His conclusions are as follows:

A Cesareanized woman is always in danger of rupture of the uterus in subsequent pregnancies and should, therefore, be under careful observation during the latter months of the period of gestation.

If the puerperium following the first Cesarean section was afebrile, the patient may be permitted to go to term with the next child provided sh ecan spend the last month of gestation in the hospital; if not, labor should be anticipated at least two weeks prior to term.

Implantation of the placenta over the scar area, undoubtedly, increases the danger of rupture of the uterus in a subsequent pregnancy; the same may be said of a febrile puerperium following hysterotomy.

RUPTURED UTERUS AFTER CESARIAN SECTION

Rongy, A. J.: Rupture of the Cesarean Scar. Amer. Jour. of Obst., Vol. LXXIV, 1916, p. 954.

The author reports two cases of rupture of the Cesarean scar during pregnancy and one of threatened rupture during labor. He reviews the literature on the subject and draws the following conclusions: Spontaneous rupture of the Cesarean scar occurs in about 3 per cent of cases. In most instances rupture takes place during labor. It does take place not infrequently during the latter half of pregnancy, especially in the last six weeks.

We have no means by which we can judge the strength of the scar. Rupture will occur in cases which run an afebrile course and in which union of the wound is apparently by first intention.

One-third of all patients who undergo subsequent Cesarean section show evidence of inflammatory reaction in and about the uterine wound. The result in such cases is a weakened scar.

Proper suturing of the uterine wound and exact approximation of the edges will not always prevent subsequent rupture of the scar. The mortality rate of repeated section is smaller than that of primary Cesarean section, because these patients are more carefully watched.

A patient who has once had a Cesarean section should not be allowed to go through a tedious or severe labor. If labor does not progress rapidly, Cesarean section should be performed. G. R. H.

CAUTERIZATION OF WOUNDS INFECTED WITH RABIES VIRUS

Poor, D. W.: Cauterization of Wounds Infected with Rabies Virus. Collected Studies. Bact. Lab., Department Health, New York City, 8 (1914-15), pp. 111, 112.

Results obtained from experiments on three series of eight guinea pigs show that 75 per cent of the control animals died after an average incubation of 14 2-3 days. Of the animals cauterized with nitric acid only 37.5 per cent died, indicating a saving of 37.5 per cent by means of the acid. Two of the pigs in this group which died of rabies showed an average incubation of 22.5 days, a lapse of time that would permit of a course of Pasteur treatment with a subsequent interval of two weeks for the full development of immunity.

Pigs which had their wounds treated with tincture of iodine showed a mortality of 100 per cent. Seven of the animals had an average incubation period of 18 5-7 days, and one an incubation period of 29 days. The practical significance of these results is indicated. E. C. B.

BACTERIOLOGICAL FINDINGS IN CEREBRO-SPINAL FLUID IN POLIOMYELITIS

Nuzum, John W.: Bacteriological Findings in Cerebro-Spinal Fluid in Poliomyelitis. Journal American Medical Association, November 11, 1916, p. 1437.

A report of the findings in fifty cases, confirming previous reports of a polymorphous streptococcus as the cause of poliomyelitis. The organisms were grown in ascites dextrose broth, ascites broth, human ascitic fluid and ascites broth to which a sterile piece of rabbit's kidney was added. Later they were sub-cultured on glucose agar slants. Animal inoculations produced paralysis in monkeys, young lambs and rabbits. Ninety per cent of the cases with clinical symptoms of poliomyelitis gave positive cultures.

As a routine procedure these cultural methods will probably be of considerable value in making a diagnosis in doubtful cases. E. C. B.

NEW AND NON-OFFICIAL REMEDIES

Benzidine. — In medical practice benzidine is used for the detection of occult blood. In the presence of hydrogen peroxid and acetic acid, benzidine is changed to a deep purple compound by the action of blood. The test is said to detect blood in a dilution of 1 in 300,000.

Benzidine—Merck (For Blood Test). —This complies with the standards prescribed for benzidine, N. N. R. Merck and Co., New York. (*Jour. A. M. A.*, Sept. 16, 1916 p. 879).

Occult Blood Test (Dudley Roberts). —This consists of tablets each containing 5 grains of a trituration of benzidine, 1 part, and sodium perborate, 20 parts, and glacial acetic acid (supplied in boxes containing 100 tablets in vials and a bottle of glacial acetic acid). A tablet is treated with a weak solution of the material to be tested and a drop of acetic acid added, a greenish blue color indicates the presence of blood. E. R. Squibb and Sons, New York. (*Jour. A. M. A.*, Sept. 16, 1916, p. 879).

Mercurial Oil.—A mixture containing from 40 to 50 per cent of metallic mercury in an oily base. The mercury is in a finely divided state and of a consistence which permits its intramuscular injection by means of a proper syringe at room temperature. The degree of subdivision of the mercury should be indicated for each brand of this product. Mercurial oil is used as a means of obtaining the systemic effects of mercury. Cumulative effects should be carefully watched for.

Mercurial Oil—National Pathological Laboratory.—A mixture of equal weights of mercury and lanolin obtained by triturating the constituents until mercury globules are no longer macroscopically visible. It is marketed in graduated syringes ready for use and containing 2 c.c. National Pathological Laboratories, Chicago. (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

Thromboplastin—Squibb. — A solution of brain extract complying with the standards for solution brain extract, N. N. R. It is marketed in 20 c.c. vials. E. R. Squibb and Sons, New York. (*Jour. A. M. A.*, Sept. 23, 1916, p. 953.)

Chlorazene.—Clorazene (sodium paratoluenesulphochloramine) is an active germicide acting much like hypochlorites, but being less irritating. Like the hypochlorites it has the advantage over mercuric chloride, zinc chloride, etc., in that it does not coagulate or precipitate proteins, such as blood serum. Chlorazene is reported to be practically non-toxic. The Abbott Laboratories, Chicago, Ill. (*Jour. A. M. A.*, Sept. 30, 1916, p. 1021.)

Swan's Bacillus Bulgaricus.—A pure culture in tubes of the Bacillus bulgaricus. It is designed for internal administration and for direct application to body cavities, abscesses and wounds. The culture is supplied in boxes of twelve tubes. The tubes must be kept in a cool place and must not be used after the date stamped on the package. Swan-Myers Company, Indianapolis, Ind. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1601.)

Barium Sulhate for Roentgen Work. —Barium sulphate freed from soluble barium salts. This salt passes through the system unchanged and, because of this, is used in taking Roentgen Ray pictures of the stomach and the intestines.

Barium Sulphate-Squibb for Roentgen Ray Work.—A brand complying with the standards for barium sulphate for Roentgen work, N. N. R. E. R. Squibb and Sons, New York. (*Jour. A. M. A.*, Oct. 7, 1916, p. 1091.)

Chlorazene Tablets, 4.6 Gr.—Each tablet contains 4.6 grains chlorazene (sodium paratoluenesulphochloramine). The Abbott Laboratories, Chicago. (*Jour. A. M. A.*, Oct. 21, 1916, p. 1229.)

H. K. Mulford Company:

Mercurialized Serum-Mulford, No. 5-A and 5-B.

Mercurialized Serum-Mulford, No. 6-A and 6-B.

Swan-Myers Company:

Swan's Bacillus Bulgaricus.

Publisher's Notes

THE MAKING OF AMPOULES.

An illuminating article on the manufacture of glaseptic ampoules of sterilized solutions, as conducted in the laboratories of Parke, Davis & Co., appears in a recent issue of Therapeutic Notes. It is noteworthy because of the emphasis placed upon the careful methods which are essential in the production of both solution and container.

"First of all," says the Notes, "the greatest care is taken in the selection of the glass from which the ampoules are made. It is of the first quality, and must be free from alkali in order to obviate any possibility of contamination or chemical action on the solution. This is vital, for it is imperative that the purity and stability of the contents of the ampoule be assured.

"The medicaments used in preparing solutions are treated with the most suitable solvents—e. g., oils, distilled water, or physiologic salt solution—and the solutions are invariably adjusted to a fixed standard of strength; that is, each contains a specific amount of medicament to a given volume, thus insuring accuracy of dose. The solutions are subjected to the process of sterilization, either by heat applied in an autoclave, at intervals, for four or five days, or by passage through a Berkefeld or Pasteur porcelain filter. They are then passed into sterilized bottles, and samples are submitted to the biological department for a series of sterility tests that extend over a period of five days.

"The ampoule containers, cleansed and sterilized, are filled with the sterilized and tested solutions by machinery. The neck of each ampoule is hermetically sealed in a gas flame, and ampoules and contents are again subjected to the sterilization process, this time by the careful application of heat, care being taken to adjust the temperature of the apparatus to such a degree that the medicament will not suffer injury. The hermetically sealed container effectually protects the solution from bacterial contamination and oxidation, while the actinic effect of light is prevented by enclosure of each ampoule in an impervious cardboard carton."

As indicative of the trend in hypodermatic medication it may be noted that more than sixty sterilized solutions are now supplied by Parke, Davis & Co. in glaseptic ampoules. Convenience, asepsis, stability, accuracy of dose—solutions in ampoules appeal to modern practitioners on these grounds.

LAURENCE EVERHART
208 Flatiron Building, ATLANTA, GEORGIA
Physicians', Surgeons' and Hospital Supplies

Write for prices on Surgical Instruments, Ligatures and Dressings, Microscopes and Accessories. Furniture for Hospital or Office, Rubber Goods, etc.
"EVERYTHING for the DOCTOR"
Reference: Lowry Nat. Bank of Atlanta

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, February, 1917 Number 8

ORIGINAL ARTICLES

VALVULAR LESIONS IN THE AGED.*

GRAHAM E. HENSON, M. D.,

Jacksonville, Fla.

Valvular lesions of some sort exist in the great majority of the aged. In a great many instances they cause no subjective symptoms, in fact are not likely to so long as a compensatory hypertrophy exists. Just so soon, however, as dilatation occurs, the aged person develops a most distressing and alarming condition. While in the young adult or in the middle-aged individual we are able to give a favorable prognosis, in the aged, in the majority of cases, a most guarded one must be entertained. This does not necessarily mean that decompensation in the aged foretells dissolution.

Bearing the foregoing facts in mind, it behooves us to carefully examine the heart in all our aged patients. We should bear in mind that the detection of a most pronounced murmur or murmurs accompanied by even great hypertrophy of the cardiac muscle, and displacement of the apex beat is not necessarily a factor in the ailment that has caused our aged patient to seek consultation and advice. Dyspnœa, a marked and distressing symptom in valvular lesions of the heart, may be caused by other pathological changes.

I recently saw a case in which a diagnosis of valvular heart disease had been based upon the subjective symptoms of dyspnœa and palpitation upon the slightest exertion, and the objective symptom of tachycardia markedly increased following the most moderate exercise. Upon examination no valvular lesion was detected, but a large area of fibroid pulmonary tissue involving a third of the left lung was demonstrated. Having detected a valvular lesion in an aged person, even though at the time it may not be a factor in the existing illness, we should not ignore it; and although at the time it may not call for active therapeutic measures, prophylactic measures for maintaining the existing compensation should be carefully considered.

Valvular lesions are referred to as aortic stenosis, aortic regurgitation, mitral stenosis, mitral regurgitation, pulmonary stenosis, pulmonary regurgitation, tricuspid stenosis and tricispid regurgitation.

Murmurs are classified as systolic, diastolic and presystolic, depending upon the time during the cardiac cycle at which the murmur is heard.

I wish to discuss more especially valvular lesions involving the mitral and aortic valves, as these lesions constitute the vast majority of valvular involvement, primary pulmonary and tricuspid lesions being relatively rare. In considering the differential diagnosis of heart lesions it is mandatory we should have a clear understanding of the factor or factors producing murmurs. A murmur results when blood in the course of its circulation through the heart meets with resistance or when it is returned to a chamber of the heart through an incompletely closed orifice. Thus when the left auricle goes into systole forcing the blood into the left ventricle, if the mitral valves do not properly close, as the left ventricle contracts forcing the blood into the aorta, a certain amount of blood is allowed to flow back into the left auricle. This produces a blowing murmur, systolic in character, heard with the greatest intensity at the apex of the heart and transmitted to the left, or what

*Read by invitation before the Volusia County Medical Society, at Daytona, December 5, 1916.

we term a mitral insufficiency or mitral regurgitation. The condition may be produced as a result of degenerative changes in the valves themselves, or it may be a relative process. In the former syphilis and rheumatism are common factors. In the latter, dilatation of the left ventricle as a result of either an aortic stenosis or regurgitation, more frequently the latter, expands the mitral orifice to such an extent that the valves while normal in themselves are incapable of closing the aperture and regurgitation results.

The resulting pathology is not hard to follow. The valves themselves become thickened and hardened, at first mobile they may become adherent to the wall of the ventricle allowing an increasing regurgitation. This in turn results in a greatly dilated and later hypertrophied auricle. As the blood becomes dammed back, involvement of the right side of the heart later occurs, venous obstruction taking place followed by a passive congestion of the internal organs.

The subjective symptoms of a mitral insufficiency, and in other valvular lesions, are negative just as long as compensation exists. It is not uncommon to find a marked murmur diagnostic of these lesions, with absolutely no subjective symptoms. With compensation broken, however, the familiar symptoms of cardiac dilatation, consisting of dyspnœa, palpitation and cyanosis upon the least exertion, become manifest. As the resulting pathology takes place increased dyspnœa, cough with a blood-stained expectoration, liver enlargement and kidney involvement occur.

With little doubt a mitral stenosis is overlooked more frequently than any other cardiac lesion. It is of frequent occurrence in the aged and is due to a degenerative process in the valve, also being a frequent sequlæ in chronic Bright's disease. As the left auricle goes into systole, the blood flow meets with resistance as it forces its passage through the narrowed orifice producing a presystolic murmur heard with the greatest intensity over a decidedly limited area slightly above the heart apex. It is not a transmissible murmur, may be detected without great difficulty at one examination while hard to demonstrate at another, which together with the fact that it is heard over such a limited area is probably responsible for the lesion going unrecognized as often as it does. The damming back of the circulation takes place more rapidly than in a mitral insufficiency, pulmonary manifestations are more frequent and hemoptosis frequently occurs. It is almost invariably later associated with a regurgitation, the physical signs of the latter often overshadowing the original lesion. The immediate effect of a mitral stenosis on the cardiac chambers is primary dilatation of the left auricle, for with this chamber contracting for the purpose of forcing the blood into the left ventricle, the resistance met at the mitral orifice allows a certain amount of this blood to remain in the auricle, so that as the pulmonary vein empties into the chamber in the succeeding cycle the auricle is already partly filled, dilatation of the chamber resulting as an accommodating factor. Bearing the resulting pathology in mind, it is easy to see why hemoptosis is of such frequent occurrence in this cardiac lesion.

The subjective symptoms in a mitral stenosis as in all valvular lesions remain negative to a greater or lesser extent just so long as compensation exists. As decompensation is about to take place, the heart becomes markedly irregular during any exercise, but may become comparatively normal in rhythm as soon as the patient is put at rest. Dyspnœa, palpitation, asthenia upon the least exertion, cough and hemoptosis are frequent symptoms, following rapidly upon each other as soon as decompensation sets in.

Probably of greater frequency in the aged of all the valvular lesions is an aortic regurgitation. Syphilis and rheumatism are prominent etiological factors in the condition, producing defects in the valve itself.

Valvular degeneration due to senility and arteriosclerosis are frequent etiological factors. The lesion, however, may exist following dilatation of the orifice itself when it is termed a relative lesion, the condition being produced by an aortic aneurism.

As a result of valvular defect or in a relative process from the dilatation of the orifice itself, as the left ventricle, having during systole forced the blood into the general circulation, goes into diastole a return flow of blood into the ventricle results from the failure of the aortic aperture to become properly closed. A long blowing diastolic murmur results, this being heard with the greatest intensity in the right second intercostal space and transmitted down the sternum. A diastolic valvular murmur in the aged is pathogonomic of aortic insufficiency and should at all times command our most careful attention.

As a result of this cardiac imperfection, the blood flowing from the left auricle and in addition blood regurgitating from the aorta, the left ventricle dilates and hypertrophies. It is in this lesion we see the largely distended heart and the decided displaced apex beat. If the condition exists long enough mitral involvement takes place, this in turn being followed by the usual symptoms as the delicate balancing of the auricle and ventricle together with that of the right and left heart is interfered with.

It is surprising what little discomfort a patient may experience with a most pronounced aortic regurgitation and with an immensely dilated heart just so long as compensation remains intact. Outside of the physical signs detected upon chest examination the most pronounced symptom and one so familiar to all of us is Corrigan's water hammer pulse. As a result of dilatation of the left ventricle and the accompanying hypertrophy unusual force attends the systole of the left ventricle. It is plainly evident why this overdeveloped contraction, also taking into consideration the fact that the left ventricle contains and expels more than the normal blood output, should produce a strong, full pulse. It is also plain as the blood regurgitates into the left ventricle during diastole why the pulse necessarily loses its force, alternately being strong and full during systole and soft and weak during diastole.

The water hammer pulse as described is pathogonomic of this particular heart lesion. Increased pulsation of the carotids is also an early symptom. As compensation becomes broken, the usual symptoms of dyspnœa, cough, venous engorgement and pain in the precordial region occur. An important symptom in aortic regurgitation is capillary pulsation which may be demonstrated by drawing the thumb nail across the forehead, when the line reddens, becoming paler with each succeeding pulsation. (Nascher.) Aortic stenosis, while not as frequent in the aged as aortic regurgitation, is frequently met with. When present it is practically always a complication of some other preexisting valvular defect. The murmur, systolic in character, is produced as the left ventricle contracts to expel its contents into the aorta. Meeting with resistance as a result of the narrowed orifice the murmur results being heard with the greatest intensity in the right second interspace, being transmitted upward to the neck, in contradistinction to the diastolic murmur of an aortic regurgitation which is transmitted down the sternum. Of diagnostic importance is the decidedly lessened cardiac impulse over the apex. The pulse is more frequently intermittent and slow.

In considering the treatment of valvular lesions in the aged the same principles, in a general way, apply as in the treatment of our younger patients suffering from similar defects. It is, however, especially imperative that in the care of the aged, we should to a large degree assume a waiting, watchful policy in so far as active therapeutic measures are concerned. We should be content to let well enough alone provided the aged patient is in comparative comfort, and the mere fact that such a patient presents himself with a markedly hypertrophied

heart, with more or less acceleration of the heart beat, should not in itself make us feel forced to seek our armamentarium of therapeutic aids. However, just so soon as these patients appear to be decompensating, they require the most careful handling. While compensation is complete, the aged person should be encouraged in moderate exercise, but any attempt at sudden exertion or rapid movement should be absolutely forbidden. Many such patients have ended their days abruptly as a result of what were apparently only minute indiscretions. Just so soon as there is any suggestion of compensation breaking down, absolute rest should be enjoined. Therapeutic measures, while of great value when judicially administered, may prove a decided detriment if incautiously resorted to. Nascher gives the following general rules which should be adhered to in the administration of drugs to the aged with cardiac disease:

"Heart tonics should not be given until they are required to overcome weakness, and heart stimulants should never be given except in an emergency or to counteract rapidly acting cardiac depressants. Heart depressions are of service only in hypertrophy without valvular lesions."

Our sheet anchor in the treatment of cardiac lesions in the young adult or in middle life—digitalis—is a dangerous drug in the treatment of the aged. It should be remembered that the action of this drug is cumulative, and that little is to be expected from it when we want immediate action. Aconite in one minum doses or veratrum viride will give good results when it is desired to lower the heart tension, relieve cerebral tension or lower the pulse rate. In the weak rapid heart, tincture of strophanthus in two to five minum doses repeated every three or four hours will be of service. Following the loss of compensation in aortic stenosis when we find our aged patient with a slow weak pulse, spartein sulphate will prove of great value. In the over-distended heart of an aortic or mitral regurgitation the nitrites will prove of inestimable benefit. Sodium nitrite and glonoin are the preparations of the writer's choice, but care must be maintained not to use them, or at least to exercise caution in their administration where cerebral congestion and a high blood pressure exist. Among the cardiac stimulants that should be the drugs of choice in the care of the aged, may be mentioned Hoffman's anodyne, camphor, the ammonium salts and alcohol.

The most distressing symptom which we are called upon to treat in this class of patients is undoubtedly dyspnœa. With little question, the drug of greatest value in the amelioration of this distressing symptom is morphine. It should be given hypodermically in doses of from one-eighth to one-fourth grain. For instantaneous relief where it is not contraindicated, amyl nitrite is of great service. In extreme cases of cyanosis, oxygen should be employed.

It has been more with the thought of provoking a discussion of this very important and interesting subject rather than any attempt to cover the subject that this paper has been prepared. To cover in detail the diagnosis, care and treatment of valvular lesions in the aged would not be practical in the time at my disposal, but I would, in closing, urge that careful attention be paid to the examination of the heart in our aged patients. Their span of life may be materially lengthened if we will take the time to thoroughly familiarize ourselves with the condition of their cardiac function. Our diagnosis being complete, we may prolong the days of compensation by careful prophylactic measures; and when compensation is lost, life may still further be prolonged by the careful and intelligent administration of therapeutic aids.

On the other hand, by slipshod diagnostic methods we may shorten the days of compensation and still further hasten the crisis by the administration of contraindicated drugs.

SENILE BRONCHITIS.*

H. L. Merryday, M. D.,

Daytona, Fla.

The most frequent form of bronchitis met with in senility is that of chronic bronchitis.

The affection very rarely arises as the termination of a single attack of acute bronchitis; it sometimes follows the repeated attacks which result from continuous exposure to the cause of catarrhal affections.

It constitutes an important manifestation of certain circulatory derangements as cardiac disease, thoracic aneurism, arteriosclerosis, some chronic pulmonary affections as pneumoconiosis, asthma and emphysema, certain diatheses as chronic alcoholism, rheumatism, gout and syphilis.

The winter cough of elderly and invalid persons is well known and is often absent when the patients are able to avoid the cold and changeable weather of the North by a temporary stay in a warm, dry and even climate. The influence of age is marked.

The pathological lesions vary both as regards their nature and extent, they affect different parts of the bronchial mucosa in varying degree and in irregular patches and consist of loss of epithelium and sometimes the mucous membrane is quite thin; in another large group of cases the mucosa is irregularly thickened or infiltrated and granular, atrophy of the glands and muscularis and dilatation of the walls of the tubes. Small ulcers corresponding to the mucous follicles are common.

The symptoms of senile or chronic bronchitis are less severe than those of acute bronchitis. There is cough of variable severity, less troublesome in dry, warm weather and always worse in the cold and changeable weather of winter and early spring, paroxysms are most frequent and severe at night and early morning, with comparative freedom throughout the day, the violence of the paroxysms depends upon the character of the bronchial secretions and the seat of the catarrhal inflammation, when the expectoration is tenacious and scanty and when the small sized tubes are affected cough is most violent, as a rule the expectoration is rather copious and either muco-purulent or distinctly purulent in character. Shortness of breath is common upon exertion in advanced cases, due to emphysema and to some extent to cardiac weakness. Fever is usually absent and there is no pain.

There are several indications for treating these cases; remove the cause of the primary condition and the intercurrent exacerbations; raise the patient's general health in every possible way; use means to regulate the amount of the expectoration and relieve all unnecessary cough, which not only tends to keep up the catarrh, but also increases the emphysema, may dilate the bronchi and further tends to wear out the patient by causing sleepless nights and disturbed days.

As a rule these senile cases do not bear drugs well and medicines are palliative in their effects rather than curative.

*Read before the Volusia County Medical Society, at Daytona, December 5, 1916.

THE EFFECTS OF SENILITY ON THE KIDNEY.*

L. B. Bouchelle, M. D.,

New Smyrna, Fla.

The effect of senility on the kidney is the same as that produced by a chronic interstitial nephritis, and is so usual that it is hardly pathological to find at autopsies of persons over fifty years old the changes incident to this disease, shrunken kidney and destruction of tubular substance and overgrowth of connective tissue. These changes are caused by the tendency of the connective tissue to keep growing or increasing during life. Upon minute examination of the senile kidney substance the excess of connective tissue is the most noticeable change. The tubules which in healthy kidneys are closely in contact are found

*Read before the Volusia County Medical Society, at Daytona, December 5, 1916.

separated by certain tracts of connective tissue which mechanically cause destruction of the tubules and vessels. The capsule of the kidney is found thickened and adherent, the whole organ being much smaller than in young persons, that is the contracted kidney which is only another name for chronic interstitial nephritis.

The term chronic interstitial nephritis is not usually applied to the changes due to senility unless accompanied by some of the well-marked symptoms of destruction of the kidney substance, such as albuminuria or uræmia accompanied by arteriosclerosis.

THE MANAGEMENT OF SENILE DEBILITY.*

John Reeve, M. D.,

DeLand, Fla.

During the consideration of this subject I have been forced to recognize these two facts:

First: That life is but a process.

Second: That we begin to die the moment we begin to live.

Before touching upon the treatment of senile debility, it will be necessary for me to say a word or two in regard to its etiology, or cause. One word, I think, will do—and that is "arterioschlerosis." It may not be general; in fact, is often found only in the aorta, the cerebral arteries and the coronary arteries of the heart. You will notice, however, that it is usually found where it can do the most harm, and the old saying that "a man is as old as his arteries," is literally true, and I have no hesitation in saying that arteriosclerosis, directly or indirectly, causes the death of the vast majority of old men. I need not define the term: we all know that it means the hardening, or induration of arterial walls, with loss of the usual elasticity, together with a decrease in the lumen of the vessel.

Take, for example, the possible effect of this process upon the coronary arteries, the nutrient vessels of the heart. We will probably have angina pectoris, aortic stenosis, with left hypertrophy, compensatory, for a time, then finally dilatation of the left heart with general anasarca and ascites, with the usual final results.

Also, the nutrition of the kidney being decreased, the result would be to decrease its power of eliminating effete products, and when we consider the fact that there are from three to five hundred grains of urea alone to be eliminated by the kidneys every twenty-four hours, beside other excrementitious matter, which, if not removed from the system, is absorbed, and this process going on, we soon have a nervous explosion in the shape of a convulsion, as we do in eclampsia which is merely a toxemia.

We may also, at this time, expect hypertrophy and other diseases of the prostrate, with their distressing sequelæ.

In the brain, a brittle vessel often gives way, even when blood-pressure is normal, and we have a clot of blood, large or small, in the substance of the brain, with the usual paraplegia, or hemeplegia. If the clot is small, it may be absorbed; if large, it is as fatal as a bullet.

"As a man sows, so shall he reap." The man of the present day, if he is of a nervo-sanguine temperament, lives too fast—is too intense, makes a "mountain out of a mole-hill," and literally "burns the candle at both ends." The direct antithesis to this is typified by the big, phlegmatic Dutchman, with his beer and tobacco. He is placid and almost torpid, under all circumstances and conditions, and we might think a man of this class, with no more nerves than a cow, would be good for a century; but he is too lazy and his adipose tissue, together with his beer and tobacco, get him earlier.

If this theory is admissible, then senile debility is merely a symptom of organic change which is inevitable and steadily progressive. What, then, are the indications for treatment, or management—that is the best word, because the ordinary routine

*Read before the Volusia County Medical Society, at Daytona, December 5, 1916.

treatment by medicine is useless? Ordinarily, we try to remove the cause. Here we can not; it is a pathological condition. There is organic change of structure, and while we call it pathological, it may be considered physiological in the very old, and it is this process gradually and stealthily going on, day by day and year by year, decreasing the supply of nutrition to vital organs, by decreasing the lumen of the vessels through which it has to pass until they are almost entirely occluded, and we die of what is commonly and improperly called "old age." We do not die of "old age," but from the effect of organic changes which finally become incompatible with life.

Patients with this form of debility in this climate are fortunate in being here, and those elsewhere can safely be advised to come here because we prescribe for them fresh air and sunshine most of the time, and nowhere can we utilize so much of both as in the climate of Florida.

We try to remove all sources of mental strain and worry. Can we do this? Not once in a thousand times.

The functions of all the organs are imperfectly and improperly performed and require our close attention, especially the constipation, which is always present. We should prescribe the strictest hygienic rules and see that they are observed.

In regard to the daily bath, neither very hot nor very cold water should be used; the one is too depressing, the other too much of a shock. Tepid water is safer and in some cases we will have to be satisfied with the sponge bath only.

The selection of a proper diet is of the greatest importance, but as there are no two patients exactly in the same condition, we can not specify definitely, but prescribe according to individual pecularities, or idiosyncrasies, as the case may be.

Exercise, active or passive, is indicated, up to the point of fatigue, in most cases. The form and amount must be governed by the condition of the heart. If there is dyspnœa on slight exertion, rest must be absolute.

Pleasant environment and cheerful society have their effect, and are always to be considered, but I am not sanguine in looking for permanent or satisfactory results from any kind of treatment in this form of debility, and I have indicated why.

However, in this way, and by these means, we hope to defer, at least for a time, the final stage of the process where vital action ceases, and chemical action begins.

URINARY TROUBLES OF THE AGED.*

Henry K. DuBois, M. D.,
Port Orange, Fla.

It is not my intention to inflict upon this society an abstract from text-books or to present any original ideas, but in few words to call attention to certain troubles with which the general practitioner is often confronted. As old age approaches the venous circulation becomes more sluggish and we find the aged are especially subject to catarrhal affections and urinary diseases. I shall confine my remarks to two conditions only, namely, cystitis and indicanuria. Cystitis has been the subject of so much discussion that I shall confine myself to my own experience and personal observation. I find cystitis in the male to be the result of retention, due to stricture or enlarged prostate, the use of unclean instruments, traumatism, overdistention, extension of pus-producing germs from the urethra and from drugs. In the female I have generally found cystitis due to septic invasion from the urethra, pressure on the bladder from a misplaced uterus or very commonly from a partially paralyzed bladder, the result of postponing the voiding of urine. It is understood that the cause in every case must be taken into consideration, that in the treatment by washing the bladder most absolute cleanliness is necessary, and that patients should be in-

*Read before the Volusia County Medical Society, at Daytona, December 5, 1916.

structed to empty the bladder as thoroughly as they can without undue exertion.

Regarding indican in the urine of the aged, I do not think it receives the consideration it should. We all know that indican is a constituent of normal urine, but in a limited amount. Indican in increased amount, constantly present in the urine of the aged, is to me a grave symptom, it is directly associated with diseases of the small intestine; it is the result of intestinal putrefaction, most noticeable in those that use meats as their principal food, and least where milk (either sweet or sour) is their main diet.

I believe that many cases of so-called intestinal dyspepsia in the aged would be cleared up by a proper examination of the urine that should in all cases include an examination for indican. My favorite test is: To a dram of urine in a test tube add an equal amount of hydrochloric acid warmed to about blood heat, then add five or six drops of a one per cent solution of chlorate of potassa, agitate thoroughly as each drop is added, put the test tube in cold water for four or five minutes and add a few drops of chloroform; shake well and the chloroform becomes blue in proportion to the amount of indican (or to speak correctly, indoxyl-potassium sulphate) present.

Before making this test, it should be ascertained that the specimen contains no albumin; if present it should be removed by boiling and filtration.

After I had written what I have just read I found in Simon's clinical diagnosis the following regarding indicanuria:

"An examination of the urine in this direction is at least as important as the testing for albumin and sugar, and that points of decided importance, not only in diagnosis, but in treatment, may thus be gained."

Over 200 samples of water were examined in our laboratory, also several samples of sewage. Such an amount of work is encouraging and we court still more.—*Florida Health Notes.*

DIET IN SENILITY.*

W. C. Chowning, M. D.,
New Smyrna, Fla.

In considering the diet of the aged there are a few general rules which apply to all old people if they are otherwise in good condition. The secretory apparatus of the digestive organs has undergone some degree of atrophy in common with the rest of the body, so that they can not digest as large or as frequent meals as formerly, and this is further influenced by the fact that the muscular structure of the stomach and intestines has so deteriorated that they can not empty themselves of as large or as frequent amounts of food as they formerly did. These facts explain the frequency of gastritis and pyrosis in those who persist too long in hearty and frequent meals as well as the usually attendant constipation. Therefore the old should eat less food and at intervals of 5 or 6 hours. If there are not enough teeth for proper mastication, they must be induced to get them, and this is more easily accomplished in women than men as their vanity causes them to more greatly value their improved appearance. If food can not be properly masticated it should be chopped fine or given in the form of mush.

Meats should not be eaten oftener than once a day; they should be rather *underdone*, and no pork at all. Fish and shellfish are satisfactory except a possible individual tendency for them to cause trouble. The cereals and breakfast foods are all desirable as well as those vegetables which leave much residue in the bowel to stimulate peristalsis. Small amounts of the light wines are permissable and often beneficial, but the heavy wines or beer should not be taken, especially if they tend to cause pyrosis or flatulence. Milk and buttermilk of course are desirable, but tea and coffee should be weak and preferably taken some little time after the regular meal.

---

*Read before the Volusia County Medical Society, at Daytona, December 5, 1916.

Nothing should be eaten between meals except a glass of hot milk at bedtime if they do not sleep well. It is well to take a glass of hot water before breakfast, to which a pinch of salt may be added or cathartic salts if there is constipation. In those who are ill care must be taken that they take a proper amount of nourishment in appropriate form as they frequently do not care whether they recover or not, and they often have a repugnance for all foods. In the event of gastric or intestinal disorders there can be no rigid rules of diet that can apply to all cases, except that it is usually wise to avoid the purin-forming substances as well as those containing a large amount of celulose or water. In the general diet of the aged all excesses must be avoided, but Nascherwell remarks that "a man who has lived so rational a life that he has reached old age it can be safely left to his own judgment to decide how much he can drink and smoke without harm."

THE DEGENERATIVE AND VASCULAR CHANGES OF THE AGED—ARTERIOSCLEROSIS AND ATHEROMA.*

J. E. McGunagle, M. D.,

Daytona, Fla.

There is no longer any doubt that the adrenal glands exercise a controlling influence on the heart and the whole circulatory system. They are in relation with the principal nerves that regulate the heart, the sympathetic and vagus. Thus, for instance, emotions that act on these nerves, excite through them a hypersecretion of the adrenals and a contraction of the smaller blood vessels with a rise in blood pressure. By a hyperactivity of these glands their secretion is thrown out into the system in a larger quantity than is usual and produce toxic effects resulting in an atheromatous condition of the arteries.

Professor Edgreen, of Stockholm, in his article on arteriosclerosis, published in 1898, cites the singular fact that all those agencies that produce hypersecretion of the adrenal glands, such as tobacco, alcohol, mercury, lead and arsenic poisonings, infections such as syphilis, are also known to be harmful in causing arteriosclerosis. The same author speaks of abundant meat food, strong tea and strong coffee as being productive of arteriosclerosis, but maintains that as yet there are no scientific proofs that these latter agencies have any deleterious action on the adrenals.

However, it remained for Leo Breisacher, of Detroit, to demonstrate their evil effects on the thyroid gland in Graves' disease and in thyroidectomized animals. This same researcher, together with Sajous and all observers, noted a hypertrophy of the suprarenal glands in subjects showing a degeneration of the thyroid.

All investigators of the ductless glands and internal secretions agree that all the glands are intimately correlated, and any agency that has an evil influence on one will in time effect all. Particularly is this true in regard to the thyroid.

Albertoni and Tizoni, in their interesting experiments, showed that a condition of interstitial nephritis developed in all animals that survived thyroidectomy. This condition was brought about in such an astonishingly short time as three weeks after operation. The urinary tubules lost their epithelium and the parenchyma showed distinct signs of inflammation. Interstitial nephritis has long been recognized as the most common accompaniment of arteriosclerosis.

In myxœdema and hypothyroidia albumen, hyaline and granular casts are commonly found in the urine. These cases likewise suffer from obstinate constipation. They likewise have an atrophy of the sudorific and sebaceous glands so the skin can not perspire. Due to these causes toxic products are retained in large amounts and a condition of auto-intoxication necessarily

---

*Read before the Volusia County Medical Society, at Daytona, December 5, 1916.

follows. The late Professor Metchnikoff placed auto-intoxication in the front ranks for production of arteriosclerosis.

It would thus seem that the chief agencies for the production of arteriosclerosis are, first, a hyperactivity of the adrenal glands causing a rise in blood pressure. This forces more blood through the arteries causing them to dilate under the strain. After repeated dilatation the elasticity is impaired, the passage of blood through the capillaries is impeded and the heart's work increased. The nutrition of the vessel walls will thus necessarily be decreased. Another cause might be a degeneration of the thyroid which normally antagonizes the adrenals and lowers blood pressure.

The best preventive would then be, to increase the activity of the thyroid and avoid all agencies known to be harmful to the adrenals. Moderation in food is certainly essential with little or no meat that the viscosity of the blood be reduced. A vegetarian diet with milk, but not in too large quantities at one time, would seem best. Bodily exercise and climbing in excess should be avoided. Through it frequent excitation of the splanchnics and adrenals may promote arteriosclerosis. Most harmful is tobacco, for nicotine, alcohol and adrenalin have a like action in the production of constriction of the smaller blood vessels. The hygiene of the intestines is of great importance as well as that of the skin.

A DEFINITE DISCUSSION OF THE INDEFINITE TERM "INDIGESTION."

George M. Niles, M. D.,

Atlanta, Ga.

The broad gateway through which the majority of patients come, who present themselves to the gastroenterologist for treatment is labeled "indigestion"; and under this term are commonly included all forms of discomfort in the abdomen, especially in that zone which embraces the epigastrium and the two hypochondria, and extending horizontally to the back.

This discomfort may be one of sensation, the cry of distress being carried by sensory nerves. In this class it may occur as a more or less defined sense of local fatigue, up through the ascending scale of weight; of pressure; of dragging; of aching—dull or sharp; of pain—dull or sharp, intermittent, remittent, or constant; of internal irritation, as of burning—which the patient may call an internal acidity; of emptiness; of hunger; of nausea; of desire for pressure or heat externally, or heat internally through food or drink; of stagnation, as though the food lay heavily like an incubus in the stomach; of over-activity, as though the food was rushed through the stomach like coal down a chute. These discomforts may appear before, during, or after eating, may be mitigated or aggravated by eating or drinking; or may not be affected at all by food or drink.

Then this discomfort may be one of action, the signal being carried through the motor nerves. Then it may occur as an over-active or noisy peristalsis, which may be both felt and heard; as an intermittent or remittent reversed peristalsis, driving before it through the esophagus, pharynx, or mouth, gaseous, solid or liquid gastric or duodenal contents—in the form of eructations; or of regurgitation or vomiting of food or secretions, or of both; or as decreased peristalsis, causing arrest or detention of gastrointestinal contents.

These sensory and motor phenomena are usually accompanied by some degree of related or reflex secretory, nutritive, visceral, circulatory, respiratory, neuro-muscular or psychic disturbances.

From time immemorial, in the presence of these grouped phenomena, the medical profession and the laity have made the indefinite diagnosis of "indigestion," and have labored to increase the digestibility of foods, or to increase the digestive powers of the sufferer. This line of thought and endeavor has brought success in some instances, egregious failure in many.

The difficult branches of physiology and its first cousin, living pathology, have only slowly been able to explain both the successes and failures. It is especially due to the stimulus of these branches, corrected and enlarged by clinical observations and aseptic surgery, that we are acquiring a new viewpoint of the physiology and living pathology of the abdominal viscera, of the relation between the objective conditions and the subjective manifestations; and of the intermediate steps preceding the terminal lesions noted in autopsies.

Reflection over the observations made along these lines shows us that many of the symptoms of so-called "indigestion" are really symptoms of definite pathologic conditions. In this statement I am sure the surgeons will concur.

Anatomically we recognize the organs belonging in the middle zone of the trunk, and we have come to recognize that one or more of these well-known organs may change their location within this zone, or even depart from it; that the viscera of the upper zone of the trunk, the thorax, may so descend, without entering the abdominal cavity, as to displace to an extent these middle zone viscera; while the viscera of the lower zone of the trunk may so ascend as to form part of the contents of this middle zone, within the abdominal cavity, altering more or less the locations and relations of the organs belonging there.

We have further learned, and most forcibly too, that this middle zone of the trunk, and especially that portion of it which we call the epigastrium, acts as a reflex alarm center for the whole body; and definite evidence exists that pathologic conditions causing symptoms referred to this region may be found in any organ or tissue of the body; but it is especially liable to be found in the viscera lying in the abdomen.

Hence, in attempting to locate a pathological condition causing symptoms in the middle trunk zone, we must try to exclude (1) All causes lying entirely outside of the abdomen—for example, tuberculosis, tabes, anæmia, all forms of toxemia, arteriosclerosis, lesions of the pelvic, thoracic, or cerebral organs, etc. (2) All causes lying anywhere within the abdomen in a viscus normally belonging outside the upper abdomen or middle trunk zone—remembering that some of these outside viscera may be displaced upward into this zone; for example, affections of the appendix, coecum, or segments of the colon. (3) We should exclude all causes lying in the walls of the abdomen, which latter form the main defense of the viscera against external trauma, and against dislocation and injury by gravity, traction, etc.

We thus arrive at the viscera normally belonging in the upper abdomen or middle trunk zone, remembering that these viscera may be displaced within the limits of this zone, or partially or entirely outside of its limits. For example the stomach may be found to be displaced as a whole; the body may be displaced, the pylorus remaining in normal position; or one or both curvatures may be displaced. Again, the gall bladder may be found misplaced upward or downward, or it may be adherent to any of the viscera which it meets in its perigrinations. Again, the kidneys, especially the right, may be found anywhere between their normal location and nearly any point in the pelvis.

Coming to a diagnosis with this anatomical, physio-pathological and clinical knowledge in mind, the first step will be to exclude all causes coming under heading (1), viz, causes outside of the abdomen. In some cases this is easy; in others there are presented some of the most obscure problems in diagnosis. In all cases, however, no matter how clear may be the presumption that a sufficient cause exists elsewhere in the body, the diagnosis should not be considered established till affections of the abdominal wall and of the middle zone viscera are excluded.

The question of incompetence of the abdominal walls is of importance, for in my observation this one factor is capable of producing such changes in the abdominal

viscera as develop the conditions which logically underlie the development of the common affections of these viscera.

In studying the upper abdominal organs, it must always be remembered that they may be displaced within the limits of this zone, or that they may be displaced partially or entirely outside its limits; and also that no matter where they wander, their ultimate proximal attachments and their afferent and efferent nerves are still derived from the original sources in the upper abdomen. Hence, in both increased and decreased mobility of these, as well as of the other abdominal viscera, traction, kinking and torsion on and of the viscera, themselves, must be considered; and the effects of the traction, which may be exerted through the attachments to the related viscera.

The subjective manifestations of this visceral traction, accompanied as it may sometimes be by kinking and torsion, are not easily proved up to the limits of pronounced obstruction; but their existence can not be doubted by the thoughtful student, when one remembers the demonstrated effects of such conditions elsewhere; and it is from this ill-defined and heterogeneous mass of symptoms of so-called "indigestion" that it is our endeavor to evolve an intelligent diagnosis.

Given an incompetent and, hence, displaced abdominal wall, we are necessarily led to diagnose more or less displacement of some of the abdominal viscera, with the possibility of already begun traction and its attendant evils. And when some of the symptoms mentioned disappear, as for instance when the effects of gravity are antagonized—either by placing the patient in the recumbent or somewhat inverted position, or by increasing or supplementing the supporting power of the abdominal walls by external methods—then these symptoms may be logically interpreted as an outward expression of visceral displacement.

And, furthermore, when this relation between abdominal incompetence and visceral displacement, with traction, kinking and torsion in the perspective is borne in mind, and when we remember the demonstrated tissue changes elsewhere as the result of such traction, kinking and torsion, the reflection is forced upon us that some of the definite lesions of the upper abdominal viscera, such as atony, motor insufficiency, dilatation and ulcer of the stomach, lesions of the duodenum and gall bladder, etc., are the indirect or remote effects of such traction, kinking or torsion.

To see, as I have occasionally seen, varied symptoms of indigestion, mental depression, and bodily ineptitude disappear almost like "the figment of a vision," after a flabby and incompetent abdominal wall has been "jacked up," as it were, by a snug adhesive abdominal supporter, causes me to believe that in many instances we have not given the subject of visceral displacement enough importance.

Lest I be misunderstood, and at the risk of repetition, I wish to summarize as follows:

(1) Symptoms of so-called indigestion group themselves as sensory and motor phenomena referred to the abdomen, but especially to upper abdomen or middle zone of the trunk.

(2) From time immemorial the diagnosis of "indigestion" has led to the treatment of these phenomena by efforts to increase the digestibility of foods and to increase and conserve the digestive power of the patient. These methods have been successful in many instances, but failures have also been numerous.

(3) Observations made in laboratory, by the Roentgen ray, and of animal experimentation, corrected and enlarged by clinical observation and surgery, have explained many of these successes and failures; and have raised a presumption that many of the symptoms of so-called "indigestion" are symptoms of definite pathological lesions—and not simply functional manifestations.

(4) We must constantly bear in mind the possibility of displacement of the viscera in

the middle zone of the trunk, or those outside of it.

(5) Clinical and physio-pathological observation teaches us that this middle zone of the trunk and especially that portion called the epigastrium acts as a reflex alarm center for the whole body, and that a pathological condition in any organ or tissue of the body may set up symptoms referable to this region.

(6) In attempting to locate a pathological condition causing symptoms in the upper abdomen, errors are most likely to be avoided by first excluding all causes lying entirely outside of the abdomen.

(7) Next affections of the abdominal wall and abdominal viscera should be excluded.

(8) The question of incompetence of the abdominal wall is of high importance, for in my observation this one factor is capable of producing such changes in the abdominal viscera as develop the conditions which logically underlie the common affections of these viscera.

(9) No matter where the viscera are displaced, their ultimate proximal attachments and their afferent and efferent vessels and nerves are still derived from their original sources in the upper abdomen.

(10) Whenever the abdominal viscera are displaced, traction, with or without kinking and torsion, can not be excluded, and the pathologic effects of such traction, kinking and torsion have been abundantly demonstrated elsewhere in the body.

(11) In the light of the foregoing, we should give due weight to possible primary or remote effects brought about by misplaced viscera.

These remarks, I trust, will give my hearers some food for thought, when making a diagnosis of a patient complaining of indigestion.

The hardships entailed by the increased cost of food is to be deplored, yet the agitation that has resulted from it will perhaps in the end make for the good of the human race.—*Southern Medical Journal.*

COLLE'S FRACTURE.*

J. S. McEwan, M. D.,

Orlando, Fla.

By Colle's fracture is known the fracture of the lower end of the radius, occurring within one inch above the carpal extremity, but rather loosely used to cover all fractures of the lower end of radius.

To take up all these would take too much of your time, and I do not think it was intended to describe more than the typical fracture as described by Colle in his masterly essay in 1814.

This fracture arises very rarely from direct but almost always from indirect violence, especially from dorsal flexion of the hand caused by a fall on its palmar surface, the force impinging upward against the hand and forearm; a direct blow by any blunt instrument, especially the handle connected with the gasoline engine or the kick may violently twist the hand backward and cause same (chauffeur's fracture).

In a Colle's fracture the radius always breaks from below and in front upward and backward. The lower fragment is displaced backward upon the upper fragment (silver fork deformity), and there is usually some angulation. The fragments are sometimes impacted, or the fracture is an incomplete one. Comminuted fractures are rare. Fissures are sometimes formed which extend into the joint.

One must not omit to look for possible complicating lesions as fractures of the styloid process of ulnar, carpal fracture, etc.

The internal lateral ligament attached to the ulnar styloid may be torn away. The anterior radio-ulnar ligaments, as well as the posterior, are frequently more or less torn. This is clinically obvious from the frequency of the associated forward displacement of ulnar. The triangular fibrocartilage which runs from the base of the ulnar styloid to the edge of the radial articulating surface may be variously torn. This

*Read before the Atlantic Coast Line Surgeons' Association, at Savannah, Ga., October 20, 1915.

seems, from the dissections, to be a common lesion and must necessarily occur if there is extreme ulnar displacement.

The stripping up of the periosteum, especially on the posterior surface, occurs also in these fractures.

Injuries to the vessels are rare, and to the nerves uncommon and are limited to stretching the ulnar nerve over the head of the ulnar, but this I believe rarely occurs.

Compound Colle's are rare, but we do meet with cases in which there is extensive tearing of soft parts communicating with the fracture, in which the progress is mainly dependent on repair of nerve and tendon; and the bone lesion as long as aseptic is of secondary importance.

The frequency of infection is a question, as the X-ray does not help us any, at any rate, one that offers much resistance to reduction is uncommon. There is some hemmorhage outside of the tendon sheath, but most of the swelling is a simple effusion.

There are no adhesions if proper treatment has taken place. The first and most important part in the treatment of a Colle's fracture is early and complete reduction. This should be done, not by pulling, but by manipulation—by hyperextension.

Grasp the upper and lower fragments with the thumb and forefingers of the two hands, bend the lower fragment backward until it is entirely free, then push it into place with the thumbs and let the hand fall into its normal position.

If the fracture is completely reduced, it will remain in position, and there will be no after pain. If there is pain the fracture is not reduced properly. I use complete anæsthesia in all cases, to make sure of diagnosis and relief of pain in reduction.

The next step is to take two X-ray plates, one anterio-posterior and a lateral view to see if the bones are in perfect alignment; if only an anterior plate is taken, you will often miss a poor position.

Many different kinds of splints have been used; the Bond, the Levis, the Gordon, Nelaton's postal splint, Roser's posterior splint, molded splints, plaster of paris, adhesive plaster, etc. The simple straight splints with properly adjusted pads as described by Scudder have been very satisfactory in my hands. At first I use two splints, removing them at least every three days to impact the arm. Gentle massage is commenced the second week, also passive and active movements of the finger and wrist.

After the first week I usually employ only one splint, the posterior, with a small anterior pad over seat of fracture. During the second or third week the splint is shortened, and after the fourth week the wrist may be supported by simple bandage and the fingers and hand may be used. The hand should be adducted and the ulna padded anteriorly. The best material to be used in making these wooden splints is the thin pine wood used in making orange boxes.

The fragment, briefly summed up, consists of:

1. Reduction by manipulation, not pulling.
2. X-ray, anterio-posterior and lateral views.
3. Splints and early massage and active and passive motion.

DIABETES MELLITUS.*

D. W. McMillan, M. D.,

Pensacola, Fla.

From the days of Claude Bernard, and even before, medical literature has been filled with theories and speculation as to the causation of diabetes. We had the theory of traumatism, since abandoned. Hyperalimentation, emotional stress, heredity, toxic effects of drugs, constitutional disease, dissipation, disease of the liver, and organic lesions of the pancreas.

A very recent one is the polyglandular theory; that is, a loss of balance of the secretions of the various ductless glands acting

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 26, 1916.

reflexly upon the functions of the pancreas. The focal infection theory of Rosenheim has been cited as a causative factor as it has been for almost everything else.

Experimentally the greater part of the pancreas can be removed without any change being noted. The pancreatic duct can be ligated or a fistula can be made, allowing pancreatic secretion to be discharged externally, as Pavloff has shown, without producing diabetes. Pancreatitis, sarcoma or carcinoma of pancreas does not necessarily cause diabetes. The only constant lesions found in this disease are certain changes in the Island of Langerhans. Whether this is a cause or an effect, no one knows.

We are told then that diabetes is due to a disturbance of some internal secretion of the pancreas. They are pleased to call it a reflex symptom-complex, whatever that is. We know that there is a loss of the power of assimilating carbohydrates; a disturbance of sugar metabolism. As regards the cause of diabetes, we know nothing at all.

We observe that a majority of patients are past the age of thirty-five. Obesity is very frequently noted. Diabetics are physically indolent; all that can afford to do so, have acquired the automobile habit. Invariably they are hearty eaters. If their appetite is not up to the average, they create an artificial one by consuming various concoctions having various names. The prohibitionists and purists take tanlac, peruna, cardui or other alcoholic mixtures sailing under different aliases. The worldings take their's straight or mixed. Their food consumption is far in excess of the average allowance, namely 35 calories per kilo of body weight. Usually the diet is lacking in variety, consisting of bread, meat, potatoes, pastry and sweets. They lead a sedentary life, do mental work, whenever they have any mentality, but without indulging in any compensatory physical exercise. Eating has with them become a habit.

The Chinese, Japanese and East Indians eat about 40 to 45 per cent as much as the white race. Their ratio of diabetes, compared to ours, is very small indeed. The increase in labor-saving machinery and the increased food consumption causes, naturally, an increase in the disease. The increased food consumption, physical inactivity and increased expenditure of nervous and emotional energy, as Greely observes, has created a vicious circle.

Diabetes goes hand in hand with prosperity; take as an illustration modern Germany. According to Von Noorden, the death per 100,000 from diabetes in Berlin increased over three hundred per cent in nine years. If we were as careful in our compilation of statistics as are the Germans, I am quite sure that we would show a great if not greater increase. Let us observe conditions in Germany, since the war, to prove our contention. Professor Boas, writing for the *Berliner Klinische Wochenscrhift,* says that after nearly two years of war the decreased consumption of food among the German people is responsible for the decrease of diabetes.

Prevention.

People having a diabetic heredity, or who are of a very nervous temperament, or who are taking on weight too rapidly, should curtail the amount of food, particularly sweets and carbohydrates, avoid worry or excitement as much as possible, and take plenty of open-air exercise. They should consult their physician and have him go over them thoroughly every six months and advise them. If the people would consult their physician more frequently, and follow his advice, they would increase their longevity. They would be healthier, happier and far more efficient.

Treatment.

Fasting and low diet in treatment of diabetes has for a long time been known, but Dr. Allen deserves the credit of proving that dogs could be rendered sugar-free by fasting. He was the first to make the test upon man. Patients are at first placed under observation for forty-eight hours or longer, in order to determine the amount of sugar excreted in each twenty-four hours under

the diet to which they have been accustomed. Also, to examine for acetone and diacetic acid, and boxyhutyric acid. Eating is continued when patients are sugar-free, in severe cases, for twenty-four hours thereafter. The condition being toxemic, even the weak and emaciated patients can undergo the fast without depression or weakening. Patient can go to bed or he can walk about as he chooses. He is given one to two tablespoonfuls of whiskey with a small amount of black coffee every two hours, from 7 a. m. to 7 p. m. This is about eight hundred calories, if the patient receives an ounce of whiskey every two hours. If he objects to whiskey, clear soup or broth may be substituted. Patient may be allowed to drink as much water as he desires. If there is much acidosis, indicated by acetone or diacetic acid in urine, or by a strong acetone odor of breath, give chemically pure sodium bicarbonate every three hours. Attacks of coma are very rare under the Allen method of treatment. If the amount of sugar is under 4 per cent the patient is frequently sugar-free in forty-eight hours. Some cases require five or six days. Two or three cases have been on this treatment for ten days before the urine was sugar-free. This is especially the case where patients are overweight. The excretion of sugar continuing until patient has lost several pounds. If the ammonia excreted goes over sixty grams in twenty-four hours, the indications are that considerable acidosis is present. The sugar-free patients are now put upon vegetables, containing 5 per cent carbohydrates. It is necessary to clean vegetables, cut them up finely and soak in cold water, then strain and place in a large double cheese-cloth tied up, water heated to 150 degrees, this poured off, fresh water is added and water brought to a boil. Boil vegetables three times with three changes of water. This reduces the carbohydrate content to 50 per cent. Patients must be dieted carefully and their tolerance for carbohydrates, fats and proteids exactly determined. Patients must be taught to examine their urine daily for acetone, diacetic acid and sugar. A reappearance of sugar during the course of treatment necessitates another fasting period. A small amount of butter or other fats may be added to diet from the beginning. It is necessary to estimate carefully the amount of carbohydrates in food, do not guess at it. Fifteen grams of carbohydrates is the maximum amount allowed on the first day following the fast. Leave carbohydrates at fifteen grams for two days or more, gradually increase the fats and proteids. Fats do not cause glycosuria, but given in excess, they stimulate metabolism to such a degree that it may cause a return of the trouble. Two hundred grams of the fat is the maximum allowance per diem in the average case. If sugar reappears, starve patient until sugar-free, but upon resuming the diet, reduce the amount of carbohydrates 50 per cent for a day or two. If the case is a severe one, one may have to continue this for a week. In mild cases, restrict diet one day each week, decrease its caloric content 20 per cent or more. Severe cases should have routine fast days. Do not increase carbohydrates and proteids at the same time. Under the Allen treatment, attacks of coma are very rarely observed. Cases of beginning gangrene, carbuncle, pruritus and other skin lesions, commonly observed in diabetes, usually disappear under this treatment. Cases after being under this treatment some time, have undergone surgical operation successfully. Acidosis is rarely observed after cases have been under treatment a few weeks. An excess of proteid will produce glycosuria as an excess of fats will induce ketonuria, hence the amount of fat and proteid consumption must be more carefully regulated than has been thought necessary heretofore. It is impossible, in a brief article like this, to adequately discuss the subject of diet in diabetes. A condensed table showing the relative increase of fats, proteids and carbohydrates for only a short period in a very mild case is given. Also a sample diet list covering a severe case, for a period of ten days, will be given. These tables have been

compiled by Miss Eckman, dietician to the Massachusetts Hospital. In order to treat diabetes after the Allen method, you must think in grams and calories, you must supply patients with a list of food values, a table of household measurements and complete diet list, also a list showing the carbohydrate content of various kinds of vegetables and fruits. A bulletin issued by the United States Department of Agriculture and a small work upon the Allen Treatment of Diabetes by Hill and Eckman of Boston, will give you all the practical information required. The following shows relative increase in food percentages in a very mild case:

First Day.

Carbohydrates	15 grams
Proteids	25 grams
Fats	100 grams
Calories	1000 grams

Second Day.

Carbohydrates	15 grams
Proteids	25 grams
Fats	150 grams
Calories	1360 grams

Third Day.

Carbohydrates	25 grams
Proteids	35 grams
Fats	157 grams
Calories	1600 grams

Fourth Day.

Carbohydrates	35 grams
Proteids	40 grams
Fats	200 grams
Calories	1838 grams

Fifth Day.

Carbohydrates	45 grams
Proteids	50 grams
Fats	200 grams
Calories	2194 grams

Sixth Day.

Carbohydrates	50 grams
Proteids	60 grams
Fats	200 grams
Calories	2347 grams

Diet list in a severe case, in which caloric value is increased much more slowly:

First Day After Fast.

Carbohydrates	15 grams

with small amount of Butter or Olive Oil.

Second Day.

Proteids	10 grams
Fats	7 grams
Carbohydrates	15 grams
Calories	200 grams

BREAKFAST.

String Beans, 120 grams (2½ heaping tablespoonfuls).
Asparagus, 150 grams (3 heaping tablespoonfuls, or 13½ stalks, 4 inches long).
Tea or Coffee, with saccharine.

DINNER.

Celery, 100 grams (6 pieces, 4½ inches long).
Spinach, 135 grams (3 heaping tablespoonfuls).

SUPPER.

Asparagus, 100 grams (2 heaping tablespoonfuls, or 9 stalks, 4 inches long).
Celery, 100 grams (6 pieces, 4½ inches long).
Tea or Coffee, with saccharine, one or two times daily.

Third Day.

Proteids	31 grams
Fats	14 grams
Carbohydrates	17 grams
Calories	327 grams

BREAKFAST.

Egg, 1.
Asparagus, 100 grams (2 heaping tablespoonfuls).
Tomatoes, 100 grams (2 heaping tablespoonfuls).

DINNER.

Chicken, 35 grams (one small helping).
String Beans, 200 grams (4 heaping tablespoonfuls).
Cabbage, 100 grams (2 heaping tablespoonfuls).

SUPPER.

Egg, 1.
Cauliflower, 240 grams (5 heaping tablespoonfuls).

Fourth Day.

Proteids	38 grams
Fat	31 grams
Carbohydrates	19 grams
Calories	530 grams

BREAKFAST.

Egg, 1.
Asparagus, 200 grams (4 tablespoonfuls).

DINNER.

Steak, 100 grams (1 small serving).
Cooked Celery, 200 grams (1 heaping tablespoonful).

SUPPER.

Egg, 1.
Lettuce, 20 grams (2 leaves).
Cucumber, 100 grams (2 heaping tablespoonfuls).
String Beans, 50 grams (1 heaping tablespoonful).

Fifth Day.

Carbohydrates	20 grams
Fats	103 grams
Proteids	40 grams
Calories	1200 grams

BREAKFAST.

Egg, 1.
Spinach, 200 grams (4 heaping tablespoonfuls).
Cream and Butter.

DINNER.

Steak, 50 grams (one small steak).
Cabbage, 100 grams (2 heaping tablespoonfuls).
Tomatoes, 100 grams (2 heaping tablespoonfuls).
Onions, 100 grams (2 heaping tablespoonfuls).
Cream and Butter.

SUPPER.

Scraped Beef Balls, 40 grams (1 1-3 ounces).
Celery, 100 grams (6 stalks, 4½ inches long).
Cream and Butter.

The Cream and Butter allowance for the day:
Butter, 20 grams (2 squares).
Cream, 40 per cent (5 ounces).

Sixth Day.

Proteids	50 grams
Fats	130 grams
Carbohydrates	35 grams
Calories	1557 grams

BREAKFAST.

Orange, 100 grams (a small orange).
Bacon, 50 grams (3 slices, 6 inches long).
Egg, 1.
Spinach, 100 grams (2 heaping tablespoonfuls).
Butter and Cream.

DINNER.

Broth, 180 c.c. (one cup).
Steak, 100 grams (one small serving).
Boiled Onion, 100 grams (2 tablespoonfuls).
Butter and Cream.

SUPPER.

Egg, 1.
Lettuce, 25 grams (3 leaves).
Bread, 20 grams (1 thin slice).
Cream and Butter.
Cream and Butter allowance for the day:
Butter, 25 grams (2½ squares).
Cream, 40 per cent (4 ounces).

Seventh Day.

Proteids	50 grams
Fats	158 grams
Carbohydrates	40 grams
Calories	1830 grams

BREAKFAST.

Bacon, 50 grams (2 slices, 6 inches long).
Bread, 20 grams (1 slice, 3x3½ inches).
Spinach, 100 grams (2 heaping tablespoonfuls).
Cream and Butter.

DINNER.

Broth, 180 c.c. (1 cup).
Steak, 100 grams.
Cabbage, 100 grams.
Lettuce, 100 grams (10 leaves).
Butter and Cream.

SUPPER.

Egg, 1.
Bread, 15 grams (3x3¼ inches).
Boiled Onion, 100 grams (2 heaping tablespoonfuls).
Milk, 4 ounces.
Butter and Milk.
Butter and Cream allowance for the day:
Butter, 50 grams (5 squares).
Cream, 40 per cent (5 ounces).

Eighth Day.

Proteids	60 grams
Carbohydrates	55 grams
Fats	150 grams
Calories	1950 grams

BREAKFAST.

Orange, 100 grams (one small orange).
Bacon, 100 grams (4 slices, 6 inches long).
Egg, 1.
Spinach, 100 grams.
Bread, 25 grams (1 slice, 3x3½ inches).
Butter and Cream.

DINNER.

Broth, 180 c.c.
Steak, 100 grams (one medium serving).
Parsnips, 100 grams (2 heaping tablespoonfuls).
Carrot, 100 grams (2 heaping tablespoonfuls).
Butter and Cream.

SUPPER.

Egg, 1.
Lettuce, 25 grams (3 leaves).
String Beans, 20 grams.
Bread, 25 grams (1 piece, 3x2½ inches).
Spinach, 60 grams.
Cream and Butter.
Cream and Butter allowance per day:
Butter, 25 grams (2½ squares).
Cream, 40 per cent (4 ounces).

Ninth Day.

Proteids	71 grams
Fats	183 grams
Carbohydrates	65 grams
Calories	2257 grams

BREAKFAST.

Bacon, 100 grams (4 slices, 6 inches long).
Egg, 1.
Bread, 20 grams (1 small slice).
Carrot, 100 grams (2 heaping tablespoonfuls).
Butter and Cream.

DINNER.

Broth, 180 c.c. (1 cup).
Roast Lamb, 100 grams (one small serving).
Baked Potatoes, 100 grams (1 medium size).
Lettuce, 100 grams (10 leaves).
Asparagus, 100 grams.
Butter and Cream.

SUPPER.

Eggs, 2.
Cauliflower, 120 grams (2 heaping tablespoonfuls).
Spinach, 100 grams.
Bread, 20 grams (1 slice).
Butter and Cream.
Butter and Cream allowance for the day:
Butter, 25 grams (2½ squares).
Cream, 40 per cent (7 ounces).

Tenth Day.

Proteids	78 grams
Fats	186 grams
Carbohydrates	69 grams
Calories	2328

BREAKFAST.

Bacon, 100 grams (4 slices, 6 inches long).
Eggs, 2.
Bread, 50 grams (2 slices, 3x2½ inches).

DINNER.

Broth, 6 ounces.
Steak, 100 grams.
Turnips, 140 grams (2 heaping tablespoonfuls).
Lettuce, 25 grams (3 leaves).
Bread, 25 grams (1 slice).
Cream and Butter.

SUPPER.

Cold Veal, 50 grams (1 small slice).
Parsnips, 200 grams (4 heaping tablespoonfuls).
String Beans, 100 grams.
Cucumber, 100 grams.
Bread, 25 grams.
Cream and Butter.
Cream and Butter allowance for the day:
Butter, 30 grams (3 squares).
Cream, 40 per cent (7 ounces).

You will observe, on the tenth day, the patient is getting about 2,300 calories, which is enough for the average case. If no relapse occurs and the patient is taking plenty of physical exercise or manual labor, calories may be gradually increased to three thousand per diem.

In a majority of cases, this is quite sufficient.

PROPAGANDA FOR REFORM.

Arsenobenzol (Philadelphia Polyclinic).—Dr. Schamberg explains that the Dermatologic Laboratory of the Philadelphia Polyclinic availed itself of the opportunity to supply their product when salvarsan was not obtainable. Having so served this purpose in the interest of humanity and the public health, the marketing of their product was discontinued when the German product became again available. The laboratory is not established for commercial purposes and could not afford to become embroiled in patent litigation which would no doubt be instituted by the owners of the salvarsan patent. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1776.)

Bromin-Iodin Compound.—This preparation was submitted to the Council on Pharmacy and Chemistry with the following formula: "Iodin gr. 1, Bromin gr. 1/4, Phosphorus gr. 1/100, Thymol gr. 2/3, Menthol gr. 2/3, Sterilized Oil fl. dr. 1." According to the promoters Bromin-Iodin Compound is "A Powerful Anti-Tubercular Agent for Hypodermic Use in Pulmonary and Laryngeal Tuberculosis * * *." The Council declared the preparation ineligible for New and Nonofficial Remedies because the "formula" was impossible if it is intended to indicate the composition of Bromin-Iodin Compound; and meaningless if it is intended to indicate the ingredients used in the manufacture; and also because there was no satisfactory evidence for its therapeutic efficiency. (*Jour A. M. A.*, Dec. 23, 1916, p. 1958.)

Castrox.—Castrox is a castor oil emulsion claimed to contain castor oil 50 per cent, glycerin 10 per cent with water and emulsifying agents. It was said to be prepared by a "unique three-day process with special apparatus and is more than 'just an emulsion.' It is a *mutual* emulsion, for the oil and aqueous solution have been united without 'forcing' * * * ." The Council held Castrox to be an unessential modification of an established article, marketed under a proprietary name and with claims which give a false value to a simple castor-oil emulsion, and therefore not admissible to New and Nonofficial Remedies. (*Jour. A. M. A.*, Dec. 23, 1916, p. 1956.)

Dakin's Hypochlorite Solution.—The following procedure is claimed to have superseded the previously published formulas: Stir 200 gm. chlorinated lime into 5,000 c.c. ordinary water and let stand over night. Dissolve 100 gm. anhydrous sodium carbonate and 80 gm. sodium bicarbonate in 5,000 c.c. cold water and pour this into the chlorinated lime mixture, and shake for one minute. After one hour siphon off the clear liquid and filter it through paper. A portion of this must not become red if a little dry phenolphthalein is added to it. (*Jour. A. M. A.*, Dec. 2, 1916, p. 1687.)

Iron Cacodylate.—While manufacturers appear most ready to take advantage of the present interest in iron cacodylate by offering this in the form of ampules, etc., they have given little help to the A. M. A. Chemical Laboratory toward the establishment of standards for this arsenic compound. Manufacturers are ever ready to sell drugs of all sorts, but in view of the small demand for little used drugs, they can not or will not safeguard the identity and purity of such drugs. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1593.)

Lacteol.—This appears to be a lactic acid ferment preparation. The advertising material is of the usual extravagant character. The preparation is made in Paris and

since the bacteria lactic acid ferment preparations are short-lived, may be inactive by the time it is used here. (*Jour. A. M. A.*, Dec. 23, 1916, p. 1959.)

Mayr's Wonderful Stomach Remedy.—More than a year ago the proprietor of Mayr's Wonderful Stomach Remedy pleaded guilty in the federal court to the charge that the claim that the nostrum was a cure for gallstones, appendicitis and all stomach, liver and intestinal diseases was false and fraudulent. Nearly a year later a placard over the store window of the Mayr establishment the following appears: "Mayr's Wonderful Stomach Remedy is the only known cure for all stomach, liver and intestinal complaints. One dose will prove it." The federal Food and Drugs Act should have its scope extended so that all advertising for a product shall come under the purview of the act. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1774.)

More Misbranded Nostrums.—The following nostrums were found to be sold with false and fraudulent therapeutic claims: E. K. Thompson's Barosma Compound was found to be a watery-alcoholic solution containing bromid of potassium 3.85 per cent, potassium acetate 2.6 per cent, extract of buchu and sugar 18.4 per cent. It was sold under the inferential claim that it was a cure for Bright's disease, inflammation of the kidneys, etc. Sayman's Vegetable Liniment Compound, sold for the treatment of deafness, fever, ague and even sore nipples, toothache and chilblains, was found to be a hydro-alcoholic solution of camphor, chloroform, capsicum, oil sassafras, ammonia and plant extractive, and probably turpentine. Knorr's Genuine Hien Fong Essence or Green Drops was found to contain 69.72 per cent alcohol (by volume), 0.35 per cent ether (by volume), 0.28 grams nonvolatile matter per 100 cc., flavored with oil of spearmint. It was said to be an excellent remedy for diseases of the stomach and bowels and many other ailments. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1775.)

More Misbranded Nostrums.—The following "patent medicines" have been held misbranded under the Federal Food and Drugs Act, chiefly because of false and unwarranted therapeutic claims. Mrs. Winslow's Soothing Syrup, declared to contain 5 per cent alcohol and 1/10 grain morphine sulphate to each fluidounce together with oil of aniseed, carraway, coriander, jalap, senna and sugar syrup (as now marketed the preparation contains no opiate). Johnson's Iodized Extract of Sarsaparilla found to be a simple vegetable preparation with only an appreciable amount of potassium iodide. Matusow's Nulfey contains 51.8 per cent sodium salicylate. An alkaloid, probably berberine, and emodin were present. (*Jour. A. M. A.*, Dec. 16, 1916, p. 1865.)

More Misbranded Nostrums.—The following "patent medicines" were found misbranded under the Food and Drugs Act in the main because unwarranted and false therapeutic claims were made for them: Smith's Kidney Remedy, found to be a hydro-alcoholic solution containing glycerin, potassium acetate, trace of alkaloid, laxative extractive plant drugs. Hill's Syrup of Tar, Cod-Liver Oil Extract and Menthol, essentially a sweetened hydro-alcoholic solution containing small amounts of chloroform, menthol, morphine and tar; ipecac, tolu, cannabis indica and wild cherry were indicated; cod-liver oil was absent. Mag-No Brand Liniment, essentially an aqueous solution of ammonia, flavored with sassafras oil and colored. Radway's Sarsaparillian, essentially a watery-alcoholic solution of sugar, potassium iodid, arsenic, a trace of alkaloids and certain plant substances. Dr. Shoop's Diphtheria Remedy, consisting of sugar syrup with a very small amount of soluble chromate, glycerin and salicylic acid. Dr. Shoop's Preventics, a tablet containing a small amount of unidentified vegetable extractive matter. Hot Porous Plaster, essentially a capsicum plaster. N. H. Down's Vegetable Balsamic Elixir, a sweetened solution of opium, ipecac, glycerin, and small amounts of calcium, potassium, and iron compounds, flavored with anise. Kopp's

Baby's Friend, containing 8.5 per cent alcohol and 1/8 grain morphin sulphate to the fluidounce. Prof. Hoff's Prescription, formerly known as Hoff's Consumption Cure. Dr. Haynes' Arabian Balsam, apparently a mixture of cotton-seed oil, turpentine and oil of cumin. Russia Salve, sold as a cure for conditions ranging from "cancers" to "mosquito bites" and from "swelled nose" to "ingrowing nails." (*Jour. A. M. A.*, Dec. 23, 1916, p. 1956-1957.)

O-Do-Cure.—The A. M. A. Chemical Laboratory reports that a solution essentially similar to this "prespiration remedy" may be made thus: salicylic acid 1 grain, boric acid 30 grains, alcohol 3 fluidrachms, perfume sufficient, water to make 1 fluidounce. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

Plant Juice.—"Plant Juice" is a "patent medicine" which is said to yield an annual profit of $90,000 to Col. Frank A. Dillingham of Cincinnati. The Milwaukee Health Department reports that, in addition to 20 per cent alcohol, "Plant Juice" contains aloes, licorice with possibly a little cascara sagrada or senna. This nostrum is advertised as "beneficial" in anemic conditions, nervousness, sickness and debility, headache, backache, dyspepsia and various other ills. (*Jour. A. M. A.*, Dec. 2, 1916, p. 1685.)

Sodium Cacodylate in Syphilis.—While Nichols has shown that sodium cacodylate is worthless as a spirocheticide, it is still being used in the treatment of syphilis, and it is the essential constituent of venarsen, a proprietary syphilis remedy. As a result of extensive clinical trials, Dr. H. N. Cole concluded that sodium cacodylate has no spirocheticidal value. At the utmost it has perhaps a slight action on the papular and nodular syphilids, but in no case is this effect to be compared with that produced by mercury and potassium iodid. In cases of syphilis with mucous patches sodium cacodylate is worse than useless. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2012.)

Sulfo-Selene—Walker. — The *New York Tribune* explains that it was caught "napping" when it gave space to a discussion of Dr. C. H. Walker's cancer treatment, "Sulfo-Selene." It explains that, while there is probably no single false statement in the published interview self-sought by Dr. Walker, the impression sought to be conveyed that Sulfo-Selene will cure cancer, rests on no such foundation of evidence as to justify a reputable and responsible physician in setting it forth in the public prints. The *Tribune* explains that Dr. Walker's preparation has failed to obtain that recognition which would have given it a scientific status, namely, recognition by the Council on Pharmacy and Chemistry. (*Jour. A. M. A.*, Dec. 16, 1916, p. 1864.)

Toxinol.—Toxinol is a "syphilis remedy" marketed by the Hawes Chemical Co., Louisville, Ky. It is a shotgun mixture characteristic of the days when syphilis was treated with haphazard mixtures of iodides, mercury and vegetable "alteratives." The Council on Pharmacy and Chemistry has examined Toxinol and the claims made for it, and reports that Toxinol is ineligible for New and Nonofficial Remedies because it is an irrational combination of drugs, marketed under a name that is non-descriptive of its composition and with unwarranted and misleading claims. (*Jour. A. M. A.*, Dec. 2, 1916, p. 1687.)

Toxicity of Salvarsan.—From the reports of O. S. Ormsby and J. H. Mitchell, A. M. Moody and J. D. Ellis in *The Journal A. M. A.*, Dec. 9, 1916, it would appear that some of the salvarsan recently on the market has been unusually toxic. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1764.)

Tanret's Pelletierine. — The exact composition of Tanret's Pelletierine is not known, but is believed to be similar to the pelletierine tannate of the U. S. P. This is said to be a variable mixture of the tannates of four alkaloids of pomegranates. As only two of the alkaloids have tenifuge properties the activity of the different preparations varies with the proportion of these alkaloids which are present. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.
Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.
Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.
GRAHAM E. HENSON, M. D.....*Jacksonville*

ASSOCIATE EDITORS.
THOMAS TRUELSEN, M. D.....*Tampa*
J. K. SIMPSON, M. D.....*Jacksonville*

COLLABORATORS.
RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa.....*Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville.....*Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville.... *Eye, Ear, Nose and Throat*
I. L. KIRBY-SMITH, M. D., Jacksonville...*Dermatology*
E. G. BIRGE, M. D., Jacksonville..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.
E. W. WARREN, *M. D.*, President ..... *Palatka*
JOHN A. SIMMONS, M. D., First Vice-President .....*Arcadia*
E. VAN HOOD, M. D., Second Vice-President .....*Ocala*
JOHN LONG, M. D., Third Vice-President .....*Lake City*
GRAHAM E. HENSON, M. D., Secretary-Treasurer .....*Jacksonville*

EXECUTIVE COMMITTEE
R. H. McGINNIS, M. D.....*Jacksonville*
JOHN MACDIARMID, M. D.....*DeLand*
R. N. GREENE, M. D.....*Chattahoochee*

COUNCILLORS.
First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920
Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917
Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917
Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville..1918
Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala..1919
Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa.....1919
Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna.....1918
Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920
Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918
Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia.....1920
Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West.....1917

COMMITTEE ON SCIENTIFIC WORK.
F. C. MOOR, M. D .....Tallahassee
C. D. CHRIST, M. D.....Orlando
F. F. FERRIS, M. D.....Apalachicola

Next Meeting — Atlantic Beach — May, 1917

THE ATLANTIC BEACH MEETING.

The Executive Committee has selected May 18-19 as the date for the forty-fourth annual session of the Florida Medical Association. It will be noticed that the dates selected fall on Friday and Saturday, it being the purpose to provide a week-end vacation for the profession of the State. The two-day session will be entirely taken up with scientific work and what business may properly come before the Association. The evening of the second day will be set aside for some form of entertainment. A preliminary program will appear in an early number of THE JOURNAL. The Atlantic Beach Hotel is prepared to give an attractive rate to all those desirous of remaining over Sunday at this popular seashore resort, and it is earnestly hoped that all will remain over, taking advantage of this opportunity of combining business with pleasure. More anon.

THE DUTIES OF THE COUNTY SECRETARIES.

The Secretaries of the various County Medical Societies making up the State organization have recently been addressed and blanks furnished them upon which to make their annual report to the Association. It is our belief that in most instances the activities of the local Secretary are directly reflected by the organization he represents. An inertia in a local society, while not always, may generally be transformed to an activity by that organization provided the Secretary gets busy with his members. The county unit is the meat of the nut of organized medicine. The Secretary is "it" in the county units. Mr. Secretaries—Get busy! It is proposed that a roll of honor be published in THE JOURNAL each month, all county organizations having paid their full membership assessment being placed on this roll. Last year but eight or nine counties in the entire State would have found themselves on this list. A little effort

on the part of the secretary would increase this number nearly threefold. Mr. Member —Help your Secretary to place your county on the first roll of honor by paying him your dues right now.

WHAT YOUR STATIONERY SPEAKS FOR.

In our profession there are few things which count more as an index of character than the stationery one uses. It will show almost to a certainty as to whether a man is neat, careful, modest or brazen by the size and style of the type or the size, shape and quality of the paper. Doctors especially can well afford to have neat stationery. Good paper and small plain type or an engraved plate with small letters is best. A lot of information is undesirable on one's letter-head. The most refined taste calls for only the name and address. If one has a specialty it may be mentioned in one word as "Surgery," "Ophthalmologist," "Internist," etc. Credit has often been safely extended by firms knowing nothing of an individual further than this. They will take the risk and usually experienced men can do so safely on the style and character of a letter. The experience of a physician in advertising for an assistant in a sanitarium will illustrate the point very well. In the replies of fifty or a hundred letters they were first assorted and selections made of the most likely applicants from the style of the letter, the letter-head, the quality of paper used, the use of English and composition. The expression was considered, *i. e.*, short, concise and clear. A great number could be eliminated at once. Some were written with a lead pencil or blots of ink were in evidence. Some well enough written but on a very inferior or inappropriate quality of paper. Those on "loud" letter-heads were not considered at all. Those written on good quality of paper of proper shape with neat letter-heads were but few in number, and the selection usually could be quickly and safely made with but little correspondence to follow. In this correspondence the applicant's photograph was called for and with rare exceptions it would speak for the person writing the letter.

MEDICAL PREPAREDNESS.

While the severance of diplomatic relations with Germany does not necessarily mean war, it unquestionably brings us, as a nation, to a point at which a state of war with a European nation must be considered as a possibility. As usual in times of general excitement, many of our newspapers are filled with rumors, as many of our citizens are filled with hysteria. In emergencies, physicians, of all men, are expected to keep cool and to be able to act efficiently. This is a duty of the profession as a whole, as well as of individuals. If war comes, the role of the medical profession will be an important and responsible one. That these responsibilities will be assumed without hesitation and borne with credit is beyond question. In case of conflict with the Central Powers, it is difficult to see, under present conditions, how land forces could be employed, at least in the near future. Service would probably be limited to work on shipboard. For this, the Bureau of Medicine and Surgery of the Navy has its regular corps, as well as the Navy Medical Reserve. Whatever may be the outcome of the present situation, the medical profession, and especially the younger men, should understand that the Army Medical Corps needs more men and that the navy is anxious to secure additional medical officers. Those physicians not needed or adapted to regular military service should at least affiliate themselves definitely with the national Red Cross, through its various local branches, and prepare themselves, either now or for the future, to be of service.—*Journal of the American Medical Association,* February 10, 1917.

COMPULSORY HEALTH INSURANCE.

The United States is practically the only large industrial nation which has not adopted compulsory health insurance. A number of states have enacted workmen's compensation laws, which may be regarded as the entering wedge; this will undoubtedly be followed by similar legislation which will provide compensation for medical care during disability from sickness, and include not only the breadwinner but also the dependent members of the family. While the medical profession has a very practical interest in the subject, because of the duties and responsibilities assigned to it in the carrying out of these laws, few physicians have recognized its importance. The mass of the members of our profession seem not to have awakened to the fact that the interests of the public, as well as their own, require them to become informed on the question and to take an intelligent, active part in framing legislation which is already being considered in a number of states. In *The Journal*, May 6, 1916, it was announced that a committee under the chairmanship of Dr. Alexander Lambert, chairman of the Judicial Council, had been appointed to compile information in regard to social insurance and the relation of physicians thereto. This committee submitted a report to the House of Delegates at the Detroit session. The American Association for Labor Legislation prepared a preliminary draft of a model bill on social insurance in which it has properly left blank the section providing for medical services, while asking the assistance of the medical profession to work out this phase of the problem. In *The Journal of the American Medical Association*, Jan. 27, 1917, p. 257, is a paper on "Health Insurance and the Medical Profession" by Dr. Lambert, in which suggestions are made for defining the conditions for medical service under social insurance. Like the model bill of the American Association for Labor Legislation, Dr. Lambert's paper is not to be regarded as the final word on the question, but as suggesting a basis for discussing the conditions under which medical services may be rendered in the proposed scheme of health insurance. *The Journal* again emphasizes that the time for the medical profession to interest itself in social insurance legislation is now, while legislation is in a formative stage.—*Journal of the American Medical Association*, Jan. 27, 1917.

SCIENCE IN THE "MOVIES."

In these days of realism in motion pictures, with the attention to details that is evident to all who patronize the "movies," it is strange that the directors do not take more pains with their scientific films.

One, possibly the most careful of directors as to details, now with the Triangle Fine Arts Corporation, has recently released a film, "The Microscope Mystery," in which the lack of detail all but makes a farce of an otherwise excellent film, with a good story and a better moral.

To be specific, at no time does the leading character use his microscope correctly. It is placed in the corner of the room where there is no light, and in one "close up" it can be seen that the mirror is not adjusted. To be perfectly frank, neither the doctor nor the girl ever saw or could possibly see anything through it. In the final denouement of the story the doctor discovers the bacilli of tuberculosis after growing a culture for a few hours—biologically impossible, since these bacilli do not grow on artificial media in less than three weeks to six months. The bacilli found are flashed on the screen; they are not tubercle bacilli.

The "leads" in regard to the magnification were correct, possibly, if they referred to size on the screen; palpably incorrect if they refer to the actual magnification of the object as seen by the actors through the microscope. The highest power used in bacteriological work is 1,000 diameter, not 156,000 diameters.

(5) The envelope containing the name of the author of the winning essay will be opened by Dr. McIntire, or in his absence by the presiding officer at the annual meeting and the name of the successful contestant announced by him.

(6) The prize in 1918 for the best essay submitted according to these conditions will be $100.00; that of 1921 will be $250.00.

(7) In case there are several essays of especial merit, after awarding the prize to the best, special mention of the others will be made and both the prize essay and those receiving special mention are to become at once the property of the Academy, probably to be published in the *Journal of Sociologic Medicine*. Essays not receiving a prize or special mention will be returned to the authors on application.

(8) The American Academy of Medicine reserves the right to decline to give the prize if none of the essays are of sufficient value.

The present officers of the American Academy of Medicine are: George A. Hare, M. D., Fresno, Cal., President; J. E. Tuckerman, M. D., Cleveland, President-Elect; Charles McIntire, M. D., Easton, Pa., Treasurer, and Thomas Wray Grayson, M. D., 1101 Westinghouse Building, Pittsburgh, Pa., Secretary.

Cancer Department

"In the early treatment of cancer lies the hope of cure."

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

"IS CANCER EITHER CONTAGIOUS OR HEREDITARY?"

Abstract of an address delivered by Mr. Arthur Hunter, President of the Actuarial Society of America and Actuary of the New York Life Insurance Company, at the Tenth Annual Meeting of the Association of Life Insurance Presidents, New York, December 15, 1916.

Cancer appears to be neither hereditary nor contagious, according to an investigation of life insurance statistics recently completed by Arthur Hunter, President of the Actuarial Society of America. Utilizing the large mass of vital statistics recorded with special accuracy and detail by six of the largest American life insurance companies which cooperated with many others in the recent medico-actuarial mortality investigation, Mr. Hunter reports that the cancer rate among those in close attendance upon sufferers from this disease is only normal and that the same normal rate prevails among those whose parents or grandparents died of cancer. Summarizing this investigation in the words with which he concludes his address, "the statistics show that a man or a woman, one or both of whose parents died from cancer, is no more likely to die from that disease than those whose family history was free from that blemish; strong proof should be presented in the future to justify asking the public to take any other point of view. Men and women who are in anxiety of mind on account of the appearance of cancer in their ancestry or immediate family may dismiss such anxieties, as there is no statistical evidence at the present time that the disease of cancer is transmitted by inheritance in mankind."

Pointing out that cancer caused 80,000 deaths in 1915 and nearly three-quarters of a million deaths among the inhabitants of the United States during the last decade, Mr. Hunter referred to the cooperation of life insurance companies with the American Society for the Control of Cancer in special statistical investigations and to the importance of an organized crusade against this disease, which, during the last ten years, has taken a toll of life equal to the entire population in 1910 of Maine or Florida. "It should not be assumed," said Mr. Hunter, "that

cancer is a disease of old age and that accordingly its ravages do not constitute a serious economic loss to the country. About one-half (or 40,000 of the deaths in 1915) were among persons under 60 years of age, and if we assume that each of these individuals was worth potentially $2,500, the community was poorer by $100,000,000 through their deaths, aside from the cost of attending to them in their sickness. The economic loss, however, is a small matter compared with the pain of those who succumb and the sorrow of those who must watch their relatives die from cancer."

Referring to the interest which a disease so widely prevalent naturally arouses as to whether it is contagious or hereditary, either by direct transmission or predisposition, Mr. Hunter continued:

"Such questions must be in the minds of hundreds of thousands of the relatives of persons who have died within the last few years from this disease and of the others who are suffering from it. I have found through direct information from relatives of cancer victims and through association with practicing physicians that there is a great deal of apprehension and foreboding —a fear that it may have been inherited or that it may develop through contagion. Unhappiness among some of the relatives is due to the mystery connected with the disease. Their fears are the result of impressions derived from individual cases where death from cancer has been attributed to a previous death of another member of the family. Desultory investigations in the past had led me to feel that there is little to fear from inheritance or contagion even before I undertook the present study with the desire to substitute facts based on a study of groups for impressions based on individual cases."

Contagion.

According to Mr. Hunter "there seems little to support the views that cancer is the result of contagion. If it were, then in a goodly proportion of cases, the wife would be infected by her husband, or *vice versa*. In addition to the evidence heretofore published which seems to prove that there is no such result, I wish to offer some original figures."

"Twenty thousand applications for insurance were reviewed, and it was found that in 488 cases one only of the parents of the applicant was stated to have died from cancer, and in four cases both parents were stated to have died of that disease. Summing up the results, it appears that out of the 492 cases where one or both parents had died of cancer, 43 per cent. of the other parents had died of some other disease, 56 per cent. were living at an average age of 61 and less than 1 per cent. (4 out of 492) had died from cancer. There were accordingly 122 times as many cases in which one parent had died of cancer as of those in which both parents had died of that disease. This clearly indicates that there is very little to fear from contagion as there could hardly be a stronger test than the case of husband and wife. The significant fact in this investigation is that there were only four cases out of the 20,000 applications for insurance in which both parents died of cancer."

Heredity.

"The possibility of heredity," said the speaker, "has generally been studied by experiments on animals. In the case of human beings there has been no previous attempt, so far as I am aware, to investigate the problem in families where there has evidently been a cancer strain, if such a thing exists. In the present investigation, one of the groups consisted of cases in which both of the parents had died from cancer; and in another of the groups, a parent and a brother or a sister of the policyholder had died from that disease. It might be expected, therefore, that if cancer were hereditary, it would be shown very clearly in the family records of these persons but this has not appeared. Approaching the problem from other aspects, several

investigators, notably, Dr. F. L. Hoffman, have come to the conclusion that the factor of human heredity is of little, if any, importance. The fact that some strains of mice can be inoculated with cancer while others appear to be uninoculable, suggests, however, that there may be similar differences in mankind, and that in one race, cancer is more or less inheritable and not at all so transmittable in other races."

After stating his belief that it does not follow that all the same conditions prevail in mankind as in animals, Mr. Hunter described his first investigation of the human material as referring to cases of persons insured in six companies, both parents having died of cancer prior to date of application for insurance. He first ascertained, wherever known, the causes of death of the parents of those who had died of cancer, with the following result:

"Of 472 grandparents of the insured, the cause of death was given in 234 cases of which two were from cancer; the cause of death was stated in 184 of these as 'old age,' the average age at death of which was 82. In 72 of the grandparents the cause of death was not known but the age was given, the average being 62; in 155 cases neither the age nor the cause of death was known. It is reasonable to conclude that if only two died of cancer out of 234 parents of persons who died of cancer that disease is not hereditary."

A further study referred to family records of cases where one parent and one son or daughter had died of cancer. The entire statistics were combined with the result that of 368 grandparents the causes of death of 147 were stated and of these only one died from cancer.

Still another line of inquiry was directed toward the 488 cases (already referred to as the basis of findings regarding contagion), in which one parent of the applicant had died of cancer. It was found that among the sons and daughters of these 488 parents "there were only two deaths from cancer among 810 persons, one of whose parents had died of that disease, all of these 810 persons having lived beyond the age of 40. According to the mortality statistics of the Census Bureau, based on the population of the United States, the number of deaths to be expected above the age of 40 from cancer would be about three."

In order to obtain additional statistics from an entirely different source, Mr. Hunter concluded his series of investigations by examining the records of one of the largest and best hospitals in New York City. Although he found that "the material was not nearly as definite as the data from the life insurance companies," he succeeded in tabulating the family history of 100 patients admitted for cancer. He found that the number of deaths from cancer recorded among the 200 parents of the patients was 5, and among the 400 grandparents only 1, which would represent a low death rate from cancer. "The study of these 100 cases," he concluded, "gives no indication that cancer was transmitted from the parents to the patients who had undergone an operation for cancer."

NEW AND NONOFFICIAL REMEDIES.

Acetylsalicylic Acid. — Acidum Acetylsalicylicum — Aspirin. — The acetyl derivative of salicylic acid. Dosage: 0.3 to 1.0 gm., repeated once in 3 hours until symptoms of salicylism are noted. It may be dispensed as powders (in wax paper), wafers or capsules.

Barium Sulphate, P. W. R., for X-Ray Diagnosis.—A brand complying with the standards for barium sulphate for Roentgenray work—N. N. R. Powers-Weightman-Rosengarten Co., Philadelphia.

Barium Sulphate, Merck, for X-Ray Diagnosis.—A brand complying with the standards for barium sulphate for Roentgenray work—N. N. R. Merck and Company, New York. (*Jour. A. M. A.*, Jan. 13, 1917, p. 121.)

Formin Tablets, 5 Grains. — Each tablet contains 5 grains of formin (see New and Nonofficial Remedies, 1916, p. 138). Merck and Co., New York.

Formin Tablets, 7½ Grains. — Each tablet contains 7½ grains of formin (see New and Nonofficial Remedies, 1916, p. 138). Merck and Co., New York.

Iocamfen.—A liquid obtained by the interaction of iodin 10 parts, phenol 20 parts, and camphor 70 parts, containing about 7.25 per cent free iodin. Iocamfen is said to have the antiseptic and germicidal properties of iodin and also the analgesic, stimulating and antiphlogistic properties of camphor and phenol. It is used in dressing wounds, etc. Iocamfen is also supplied as Iocamfen Ampules, containing 20 minims iocamfen. Schering and Glatz, New York. (*Jour A. M. A.*, Jan. 20, 1917, p. 199.)

Mercurialized Serum—Mulford.—The following dosage forms of mercurialized serum-Mulford, described in New and Nonofficial Remedies, 1916, p. 192:

Mercurialized Serum—Mulford, No. 5-A.—Each package contains one 8 c.c. graduated sterile glass syringe with sterile needle, containing the equivalent of 0.0055 gm. (1/12 grain) mercuric chloride.

Mercurialized Serum—Mulford, No. 5-B.—Each package contains one 8 c.c. graduated sterile glass syringe with sterile needle, containing the equivalent of 0.011 gm. (1/6 grain) mercuric chloride.

Mercurialized Serum — Mulford, No. 6-A.—Each package contains ten 8 c.c. graduated sterile glass syringes with sterile needle, each containing the equivalent of 0.0055 gm. (1/12 grain) mercuric chloride.

Mercurialized Serum—Mulford, No. 6-B.—Each package contains ten 8 c.c. graduated sterile glass syringes with sterile needle, each containing the equivalent of 0.011 gm. (1/6 grain) mercuric chloride. H. K. Mulford Company, Philadelphia, Pa. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1759.)

Pertussis Bacterin — Mulford. — A pertussis bacillus vaccine (see N. N. R., 1916, p. 321). Pertussis Bacterin-Mulford is sold in packages of four syringes containing 50, 100, 200, and 400 million killed Bordet-Gengou bacilli. H. K. Mulford Company, Philadelphia, Pa. (*Jour. A. M. A.*, Dec. 16, 1916, p. 1851.)

Neutral Solution of Chlorinated Soda. — Solution Chlorinated Soda, Dakin. — Solution Chlorinated Soda, Carrel-Dakin.—A chlorinated soda solution, containing 0.43 to 0.48 per cent of available chlorine, free from caustic alkali. It is prepared by treating a suspension of chlorinated lime in water with definite amounts of sodium carbonate and sodium bicarbonate and adjusting the separated clear liquid to the required content of available chlorine. The solution is not reddened by phenolphtahlein. It must be protected from light. The solution has been used for the irrigation of wounds, especially infected war wounds.

Theobromine—Merck.—A brand complying with the standards for theobromine —N. N. R. Merck and Co., New York.

Veronal Tablets, 5 Grains. — Each tablet contains 5 grains of veronal (see New and Nonofficial Remedies, 1916, p. 92). Merck and Co., New York. (*Jour. A. M. A.*, Jan. 6, 1917, p. 35.)

Urease.—An enzyme found in certain beans, fungi and micro-organisms which, in the presence of water, converts urea into ammonium carbonate. It is used in the determination of urea in the urine, blood and other body fluids, either by determining the increase in alkalinity of the fluid to which it is added, or else the ammonia produced by it in the fluid is removed and estimated.

Urease—Squibb.—A standardized preparation of urease obtained from the jack bean. It is supplied in the form of powder and tablets containing 0.1 gm. E. R. Squibb and Sons, New York.

Publisher's Notes

THE MAKING OF AMPOULES.

An illuminating article on the manufacture of glaseptic ampoules of sterilized solutions, as conducted in the laboratories of Parke, Davis & Co., appears in a recent issue of Therapeutic Notes. It is noteworthy because of the emphasis placed upon the careful methods which are essential in the production of both solution and container.

"First of all," says the Notes, "the greatest care is taken in the selection of the glass from which the ampoules are made. It is of the first quality, and must be free from alkali in order to obviate any possibility of contamination or chemical action on the solution. This is vital, for it is imperative that the purity and stability of the contents of the ampoule be assured.

"The medicaments used in preparing solutions are treated with the most suitable solvents—e. g., oils, distilled water, or physiologic salt solution—and the solutions are invariably adjusted to a fixed standard of strength; that is, each contains a specific amount of medicament to a given volume, thus insuring accuracy of dose. The solutions are subjected to the process of sterilization, either by heat applied in an autoclave, at intervals, for four or five days, or by passage through a Berkefeld or Pasteur porcelain filter. They are then passed into sterilized bottles, and samples are submitted to the biological department for a series of sterility tests that extend over a period of five days.

"The ampoule containers, cleansed and sterilized, are filled with the sterilized and tested solutions by machinery. The neck of each ampoule is hermetically sealed in a gas flame, and ampoules and contents are again subjected to the sterilization process, this time by the careful application of heat, care being taken to adjust the temperature of the apparatus to such a degree that the medicament will not suffer injury. The hermetically sealed container effectually protects the solution from bacterial contamination and oxidation, while the actinic effect of light is prevented by enclosure of each ampoule in an impervious cardboard carton."

As indicative of the trend in hypodermatic medication it may be noted that more than sixty sterilized solutions are now supplied by Parke, Davis & Co. in glaseptic ampoules. Convenience, asepsis, stability, accuracy of dose—solutions in ampoules appeal to modern practitioners on these grounds.

THE CHESTON KING SANITARIUM

A Private Sanitarium for Nervous and Mental Diseases, Alcoholic and Narcotic Inebriety

Careful attention to proper classification of cases. Modern conveniences and accommodations. Facilities excellent. Electricity, Hydrotherapy, Massage and Occupation. Site elevated, retired and beautiful. Twenty-five acres in lawn and garden. Situated between the Capital City Country Club and Greater Oglethorpe University. Patients admitted to our sanitarium can have all the rest and exercise indicated and yet will not come in contact with any objectionable case. A physician in constant attendance. Mail address

THE CHESTON KING SANITARIUM, Peachtree Road, Atlanta, Georgia

VICTOR

Diathermy

A High Frequency modality which is purely thermic in character (being free from electrolysis and contracture.)

A comparison of diathermy with other thermic agents conclusively demonstrates it to be a specific for deep seated heating effects.

Diathermy will heat any part of the anatomy uniformly through up to a maximum of 110 degrees Fahrenheit therapeutically, and up to the point of coagulation surgically.

The technic of application is exceedingly simple.

Clinical Data on Request

Victor Electric Corporation
Chicago - New York - Cambridge

Manufacturers of

A complete line of x-ray and electro medical apparatus.
We have a Service Station in your vicinity.
Address inquiries to 236 S. Robey Street
Chicago

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, March, 1917 Number 9

ORIGINAL ARTICLES

OSTEOCHONDRITIS DEFORMANS JUVENILIS.*

EDWARD JELKS, M. D.,

Jacksonville, Fla.

I want to present to the Society tonight a case that illustrates a condition which in the past has been confused with tuberculosis of the hip. It is important to us because it does simulate this disease so closely. For many years it was noticed that there was a certain type of hip disease classified as tuberculosis which ran a mild course and gave a much more favorable end result than the observer had anticipated. These were generally considered tuberculosis which had responded successfully to treatment. Although several attempts had been made to put these cases in a special class, it was Perthes who first described and classified them as a distinct, well-defined disease. This was in 1910. With an attempt to give a nomenclature based on etiology, he called the condition "osteochondritis deformans juvenilis," deforming osteochondritis of childhood.

One's first contact with the disease impresses him that he is dealing probably with a mild tuberculosis of the hip. It appears in children, chiefly boys, between the ages of three and thirteen; usually with limping as the only symptom. There may be apparent shortening and the patient sometimes complains of pain of a mild degree in the knee or down in the leg. One is forcibly impressed, however, with the severity of the limp as compared with the mildness or absence of any constitutional symptoms. The patient is almost without exception a strong, muscular child. He usually has no fever, does not have night cries, there is very little muscle spasm in the leg and no crepitation in the joint or pain on motion. The Von Pirquet and Wassermann tests are negative. Patient shows no signs of rickets. It is just this mildness of symptoms with negative tuberculin tests which first directs one's attention away from tuberculosis. The progress of the disease is always almost good and the end result good function, regardless of the treatment given. This, of course, is not true of a tuberculous joint.

The information obtained from an X-ray examination is in most cases diagnostic. There is atrophy with flattening of the epiphysis either into a caplike or mushroom shape and hypertrophic thickening of the neck of the femur with an appearance of coxavara. The epiphysis may be divided in separate pieces; the epiphyseal line is irregular and broader than normal. The bone does not show the typical "eaten-out" atrophy of tuberculosis. There are no hyperostoses nor apparent real erosion.

We are still in doubt as to the etiology. Almost all authorities agree at least that it is not tuberculosis, but is some form of obscure infective arthritis simulating very closely the osteoarthritis in older people; in fact, some observers have followed cases in adults which, they believe, are the direct continuation of this condition from childhood. Trauma probably plays some part in its etiology.

The case which we have had to report impresses us with the infectious nature of the disease. The patient when first observed ran a temperature of 100 degrees daily. We could not find any explanation for this other than the condition in the hip. It was noticed

*Read before the Duval County Medical Society, January, 1917.

when the hip was kept fixed in a cast that the patient's temperature ran nearer normal than when we let him up on crutches.

Treatment: Working on the supposition that the disease is infectious in origin, the first steps to be taken should be the clearing up of all possible foci of infection. In children, of course, the most usual focus is the tonsils. The teeth seem next in importance. Although it is not believed that the condition can be tuberculosis, it seems wisest with our present knowledge to give the joint some protection with braces until we are sure that the disease is not progressing. The point about the treatment is that it need not be strenuous as in tuberculosis and that we may look with optimism to the ultimate result.

H. I., No. 1874. Riverside Hospital. Boy 7 1-2 years old.

Complaint: Limp and pain in the right hip.

Family history: One of two healthy children, of healthy parents, no tuberculosis in family.

Past history: Child has always been robust and free from the usual infectious diseases of childhood. Has not even had measles. Not subject to sore throat or colds.

Present trouble: Five months ago the patient's mother noticed that the child was beginning to limp slightly after playing hard all day. Occasionally he complained of pain in the anterior part of his right thigh. This would not keep him awake at nights or come on after bedtime, no night cries. The child has had no cough and no fever has been noted. In fact, there has been no change in him from normal except the limp and occasional pain as mentioned.

Examination: Patient is a robust muscular boy, tonsils are somewhat imbedded and reddened. Glands are palpable in the neck, axilla and groin of about equal size and very small. When patient walks there is a limp in which he protects his right hip. There is free motion in the left in every direction; in the right, however, there is restriction of all the motions at the hip, especially abduction. There is no tenderness or crepitus. Measurements of the two legs show a very slight atrophy of the left with shortening of less than one-half inch. Urine examination, blood examination, Von Pirquet and Wassermann examinations are all negative. X-ray examination revealed what we interpreted as Perthes's disease or "osteochondritis deformans juvenilis." There was the typical flattening of the head, thickening of the neck and the characteristic bone texture of this condition. The tonsils were removed as a possible focus of infection. The hip was kept in fixation three months. After nine months patient has shown marked general improvement and the X-ray examination shows that there has been no change in the condition of the bone. 1433 *Riverside Avenue.*

THE TREATMENT OF FRACTURES OF THE HUMERUS AND FEMUR, WITH SPECIAL REFERENCE TO THE OPERATIVE METHOD WITH THE USE OF AN AUTOPLASTIC GRAFT.

H. C. Dozier, M. D.,

Ocala, Fla.

It is a well-recognized fact in the medical profession that the treatment of fractures is very far from satisfactory. This is partly because the general surgeon has largely neglected this field of surgery and has devoted the most of his thoughts to the treatment of abdominal and pelvic conditions. For this reason and because in this field is offered some of our most intricate and interesting surgical problems, I wish to discuss some of the reasons why our results are so lamentable in fractures of the humerus and femur, and point out some of the advantages of the open or operative treatment over the older conservative closed method of treatment.

The object of treatment in all fractures is the restoration of complete function and overcoming of the bony deformation—for every fracture must be regarded as a temporary deformity, and if it is allowed to become a permanent one, in most cases it will lead to impairment of the functions of the limb. Plate one illustrates this condition in which an oblique fracture of both bones of the leg was allowed to become united in a vicious position throwing the weight of the body on the inner side of the instep, which caused the patient considerable pain in his foot and ankle, and also caused a very ugly limp in walking. In this case, if the original surgeon did secure perfect reduction, his bad result was due to his failure to maintain the bones in proper apposition; which I regard as not so much the failure of the surgeon's skill as the failure of the method of treatment, which he adopted. It is no easy problem to retain an oblique fracture in perfect reduction, and it should always be borne in mind that proper retention is just as important as proper reduction in securing favorable results.

The X-ray has let in the light of day, and dispelled much of the mystery which formally surrounded the treatment of fractures. Radiology shows that the cause of persistent deformity is overlapping of the fragments or an exhuberant callus formation, frequently caused by the failure of our retention apparatus to properly immobilize the fracture ends. In addition to revealing the cause of many of our poor end results, the X-ray has been the means through this very discovery of creating in us a spirit of discontent, and stimulating us to look around for some surer means of overcoming

the deformity, and restoring function in our fractured limbs.

Particularly are we confronted with difficult problems of treatment in dealing with fractures of the humerus and femur. It is my experience, and is universally known that vicious union, pseudarthrosis or non-union are more frequent in fractures of the humerus and femur than in any other bones of the body. There are anatomical and mechanical reasons why this is so; the following explains why it is so difficult to obtain good end results in fractures of these bones by the closed method:

First. The humerus has muscles attached to it almost throughout its entire length, and when the sharp ends of the fragments become displaced they probably become fixed in the surrounding tissues, thus there is the possibility of non-union from the interposition of soft parts between the fragments, which cannot be foreseen, nor discovered prior to the occurrence of non-union.

Second. In fractures of the head and anatomical neck of the humerus there is great danger of non-union, or else union with some deformity and limitation of motion, as the result of excessive intra-articular callus formation, which, according to Roberts and Kelly, may lead to marked ossifying arthritis. There is, also, the mechanical difficulty of dealing with a proximal fragment and it has often been necessary in the past to perform excision of the head.

Third. "Lack of proper fixation" of fragments is given by practically all authorities as the prominent cause of non-union in fractures of the humerus it is equally true in fractures of the femur, and can also account for many cases of vicious union. I say that the extreme mechanical difficulty of maintaining fragments of these bones in proper retention by the various appliances advised for the closed method of treatment is responsible for "lack of fixation," and is a strong argument for the open method. Proper reduction cannot be effectively maintained by means of the usual appliances for the following reasons:

(a) In fractures of the upper end of the humerus a pad in the axilla and shoulder cap, combined with strapping arm to the side by means of a swarth is the usual means of fixation adopted. Every one knows the inefficiency of the shoulder cap and axillary pad as a means of immobilization. They do not overcome the action of the muscles tending to produce a deformity, and do not perfectly immobilize, hence, the tendency to recurring deformity. Roberts and Kelly say, "the value of the shoulder cap is not great as a fixation apparatus at any time, but protects the region from blows or falls, which otherwise might do harm."

(b) Splints cannot be applied to the humerus with sufficient tightness, especially if the fracture is in the middle or upper third, to maintain reduction with certainty, on account of the dangers of compression.

(c) Extension by means of weights from the elbow necessitate the sitting or standing posture, or if applied with the patient in a recumbent posture there is the difficulty of counter-extension, and is therefore uncertain, because it is not continuous, being interrupted by change of the patient's position and in adjustments in sleeping. Counter-extension in the axilla, if of sufficient force to be effective, is uncomfortable and likely to cause damage from too much pressure on the axillary structures. In the case of the femur our attempts at reduction are usually only partially successful (except in those favorable fractures which are transverse), and, if successful at the time of reduction, there is no positive assurance that the fragments will stay in proper apposition. Murphy says "this is because most fractures of the shaft are spiral or oblique and because the powerful muscles are in a state of spasm, and, although relieved by anesthesia at time of reduction, yet when the patient regains consciousness, the spasm is almost sure to again displace the frag-

ments, even though heavy extension is employed. Here again the extension is not continuous and uninterrupted since every movement of the patient's body or the sliding of the patient in bed defeats our efforts at immobilization. Plate 2 and 3 show case of non-union from ineffective immobilization with resulting pseudarthrosis.

Fourth. In fractures of the humerus and particularly of the middle third, the musculo-spiral nerve is liable to injury, because it lies on the bone in the musculo-spinal groove. If there is direct injury to the nerve at the time the fracture is received, the paralysis of the extensors is noticed at once, but if the nerve is stretched over one of the fragments, or caught between, its injury may be detected only after the splints are removed and be wrongly attributed to improper treatment or misapplied pressure. Injury of this nerve, if undetected, usually results disastrously to the patient, and can be detected and corrected if the open method is adopted.

Fifth. Fractures of the neck of the femur treated by the old method of extension, counter-extension and splints, almost invariably result in non-union. Murphy quotes the elder Gross as saying, in the last edition of his book, "that he did not believe he had ever had union of an intra-capsular fracture of the femur. He used Buck's extension, etc." The double abduction method of Whitman is the nearest approach of any closed method yet suggested to direct visual fixation. It is the method which should be used in those cases in which, on account of constitutional reasons, or extreme age, the operative method is contraindicated. All authorities agree that the results in treatment of this fracture are uniformly unsatisfactory, except perhaps in impacted cases. The mechanical conditions, the poor blood supply, and the difficulty of fixation are problems which make this a desperate condition and radical measures are more than justifiable. The influences adverse to union in this fracture are best overcome by use of autoplastic graft. Albee's method consists of "a strong autogenous bone peg accurately fitted into a hole drilled longitudinally through the neck of the femur with the fragments in good apposition." This operation is indicated in all ununited fractures of the neck of the femur; in most fresh unimpacted fractures in operable subjects under 50 years of age; and in all old fractures of the neck where malnutrition has resulted.

Sixth. Fractures of the lower end of the femur are fortunately rare, because they are grave both as to life and as to functional result. Supra-condular fractures are usually oblique or spiral and there is usually marked posterior displacement of the distal fragment due to the action of the gastrocnemius muscles, and the proximal fragment is pulled inward and forward by the abductors and the extensor muscles. In view of this displacement it is often found impossible to maintain the fragment in proper apposition by the old weight and pulley method with extension from the knee in flexion, even if we have under anesthesia been able to accomplish satisfactory reposition of fragments; there is still the fact to be remembered that with every movement of the body the muscles of the thigh are relieved from tension, and then contract, permitting a certain amount of mobility which is likely to result in vicious union. Another fact to be remembered is that we are not justified in attempting too much manipulation—especially pressure in the popliteal space, on account of the danger of injury to the popliteal vessels and nerves. For this reason I believe this fracture should be treated by the open method and an autoplastic inlay or intermedulary bone graft inserted. I have purposely omitted any reference to fractures in and around the elbow joint, since they are of such seriousness and importance that it would involve a greater discussion than could be attempted in a paper of this length.

The foregoing has been largely a discussion of the difficulties to be met, and our failure to overcome them by the closed

method. Now, what are the especial advantages of the operative or open method of treatment?

First. Direct ocular examination of the fragments and consequent detection of interposed structures, and accomplishing their removal.

Second. Visual reduction enables the surgeon to know that he has the proper reposition of the fragments.

Third. Direct fixation assures the surgeon that there will be no recurrence of deformity.

Fourth. The patient's chances for a good anatomical and functional result are greater, because of our ability to accomplish proper reduction and efficient internal fixation.

Fifth. There is more freedom from pain during the after treatment, because of a more perfect immobilization.

Sixth. There is a decided shortening of the period of convalesence.

In spite of the above advantages which are evident and decided, there are contraindications to the operative method, chief among which are:

First. Lack of the proper facilities for faultless aseptic technic.

Second. Lack of experience of the surgeon in this kind of surgery.

Third. In the aged or in any one in whom for constitutional reasons any operative procedures are undesirable or dangerous.

Unless the surgeon has the necessary operative experience and good hospital facilities, it is better to trust the outcome to nature with some form of external fixation, since the patient will at least be spared the results of meddlesome surgery and possible sepsis. Having decided upon the operative method, one might be puzzled to choose from among the various methods of internal fixation that have been advised. It is not my intention to attempt to unravel this perplexing problem and review the long story of the efforts of the profession to find a suitable material for this purpose, but I wish to call attention to the disadvantages of the nonabsorbable material and try to show some of the advantages of the autoplastic graft for this work.

In the February number of *Surgery, Gynecology* and *Obstetrics,* Hogland, of Rush Medical College, sums up the situation correctly and in accord with Murphy, Albee and others, when he says: "In the remarkable development of bone surgery during the past few years, the most conspicuous feature is that the use of foreign material, such as steel plates, wire, nails, screws, etc., has been practically abandoned. Wherever possible every surgeon of experience now prefers to use autogenous or autoplastic methods, and this field is being rapidly developed. Intramedullary transplants, inlays, bone pegs and bone screws have a wide range of usefulness, and will be universally employed as soon as the profession has mastered the technic."

Also in a recent number of *Annals of Surgery,* Dr. W. Lathrop states that from his experience in several hundred cases during the last four years, and having used wire, plates, nails, bands and grafts, he finds the autogenous bone inlays of Albee to give by far the best results.

Practically all authorities agree and state that the less foreign material placed in a wound, the quicker it will get well—the reason being that the presence of a foreign body predisposes to infection, because, as Murphy states, "the tissues have not the response to infection." Groves, quoted by Albee, says "that sepsis is the result of an osteoporosis caused by the presence of screws, nails, plates, etc." Murphy has, also, noted this condition of osteoporosis, where screws had been inserted in the bone, in operating on cases of non-union, following the use of plates. The frequent necessity for removal of foreign material is also an objection to its use. There will be instances where the bone graft is not practical, and when that is the case, remember that the general principle with reference to the use

of any foreign material is the smaller the amount placed in the wound the better. Phosphobronze wire is the best of the non-absorbable ligatures, and will give the least trouble and has the advantage of great tensile strength, and can be tied like a string. I have on many occasions used phosphobronze wire, and have never had to remove it. When possible, and it is usually possible in fractures of the humerus and femur, the bone graft is the ideal internal fixation material. Albee says he gets "100 per cent union with perfect anatomical and functional results, with the use of this method."

All authorities agree that the bone graft is osteoconductive—that is, it plays the passive roll of a scaffold in which the Haversian canals in the dead bone (that is the graft) act as tubes into which the Haversian vessels from the living bone, above and below, pass. These Haversian vessels, from above and below, carry with them on their walls osteoblasts and osteoclasts, the osteoclasts dissolve the bone that was transplanted, and the osteoblasts make new bone to replace it.

Albee has, also, shown that the graft is osteogenetic as well as osteoconductive. In his case of sarcoma of the tibia mentioned in his "Bone Graft Surgery," in which it was necessary to resect two-thirds of the tibia which he replaced with two three-inch grafts, one inserted in the proximal and one in the distal end of the bone, and the two free ends of the graft contacted in the center, there was at the end of four weeks firm bony union between the free ends of the graft. "This callus could have originated from no other source than the two graft ends."

These two properties of the graft are very important, especially in old fractures with marked fixed deformity or cases of non-union, for in these cases there is always a distinct pathological change consisting of a condition of osteosclerosis. This accounts for the failure to get union after the use of metal appliances, because the sclerosed ends of the fragments are contracted, and the metal plate or wire can not conduct bone cells from the healthy bone above and below the sclerosed area. "This ebonated area may extend as much as one and one-half inches in each fragment, so much so that the bone fragments ideally contracted and perfectly immobilized by external splints, or internal metal devices, do not unite.

"It is clear that the surgical problem is the furnishing of an efficient internal splint, which is at the same time osteogenetic and osteoconductive, and which spans the sclerosed area with healthy vascular osteogenetic bone beyond the ebonated area." (Albee.)

The autoplastic bone graft, either as an inlay or an intramedullary graft fulfills all these requirements. It is osteogenetic and osteoconductive, while a plate or other metal appliance is an inhibitory influence to bone growth, and if the plate should be long enough to span the sclerosed area, it can not conduct living bone cells to the fractured ends. The presence of a plate more frequently causes osteoporosis, and the screws loosen up, and the plate becomes only a foreign body, which has to be removed, and non-union may even result. "A bone graft serves, also, as a perfect internal fixation splint, but it is even more, it is a strong stimulus to osteogenesis on the part of the host fragments themselves." (Albee.)

In this discussion, I have intended to bring to your attention what I thought were good and sufficient reasons, based on anatomical and mechanical grounds, why we could not expect better results in fractures of the humerus and the femur with the old so-called conservative method of treatment, and have tried to show that this is not a worked-out and exhausted subject, but is an interesting and fruitful field for research. The late Dr. John B. Murphy said a short time before his death, in speaking of bone work: "The advances in this field of surgery have been so rapid and numerous that no

surgical text-book has been able to keep abreast of them; in fact, there exists no text-book which adequately represents modern ideas on fractures and dislocations." The open treatment with the autoplastic graft, performed by one with experience and with the necessary surgical environment, offers us all an opportunity to practice more beneficial conservatism, because it protects the patient from the effects of anatomical and functional deformity.

INTESTINAL OBSTRUCTION; ITS DIAGNOSIS AND TREATMENT, WITH REPORT OF CASES.*

John A. Simmons, M. D.,

Arcadia, Fla.

It is not the intention of the writer of this paper to give you anything new or original on this subject, but to call your attention to some of the most cardinal symptoms, and to sound a warning note to take due notice of them, lest we go astray in making our diagnosis, thereby failing to institute the proper treatment at the right time.

First: Intestinal obstruction is divided into three general classifications, viz., adynamic, dynamic and mechanical, but before taking up the varieties let us recall some of the anatomical facts of the intestines.

The intestines are composed of an outer or peritoneal coat, a middle or muscular coat and an inner or mucous coat, which latter is thrown up into folds loosely attached to the muscularis, accommodating itself to the varying tones of the muscularis.

The gut, both large and small, is a potential tube some thirty feet in length, provided with nerves, arteries, veins and lymphatics. Potential, because sometimes its lumen is open containing gas, liquids, semi-solids and solid matter. At other times it is closed, and so tight may it be closed by the contractions of its own muscularis that it may resemble a hard fibrous cord.

The natural consequence of food taken into the mouth is a gradual descension from inlet to outlet, this forward motion is kept up by regular or irregular wave-like contractions of the muscular coat of the intestines assisted by gravity and the action of the abdominal walls and diaphragm. If the contents of the intestines fail to move forward from any cause and stasis occur in any part of the tube, symptoms of obstruction will develop.

This may be due to atonic paralysis of the muscular coat, interference of the nerve supply as in spinal cord lesions, spastic paralysis of the muscular coat, entirely obliterating the lumen of the gut, neoplasms or fecal impaction blocking the lumen, or may be by pressure of a tumor from the outside of the intestines.

In dealing with the varieties of ileus, we will only give passing notice to the first two, viz., adynamic and dynamic.

Adynamic, which means without power, is due to atonic paralysis of the muscular coat, and in consequence, characterized by an absence of peristalsis, may be caused by an operation on the mesentery, thereby cutting off the nerve or vascular supply, or both, local peritonitis and mediastinal lesions, involving the efferent nerve supply. Injuries to the vagus and sympathetic may also cause a paralysis of peristalsis.

Diaphragmatic pleurisy is another cause of adynamic ileus, and John B. Murphy said is one of the rocks on which many abdominal diagnosis are wrecked. Both the "Simon Pure" surgeon, who leaves internal diagnosis to "the other fellow," and the operating gynecologist meet here their just reward. Their first diagnosis is appendicitis, their second intestinal obstruction. Why? Because there is a paralysis of peristalsis, and if the pleurisy is on the right side, a tender point is found in the right lower abdomen and when the palpating hand is applied the abdomen is felt to be tense.

---

*Read before the forty-third annual meeting of the Florida Medical Association, at Arcadia, May 10-12, 1916.

Why? Because the abdominal muscles by contracting are trying to limit the excursion of the affected side of the diaphragm and ease the pain. Pleurisy, however, can be differentiated from ileus of the mechanical type by the presence of fever in the former and an absence of fever in the latter.

Of the next group of cases, the septic adynamic ileus, which for a long time was so difficult to differentiate, the most common variety is that due to local peritonitis.

The patient, for instance, has primarily an acute appendicitis with perforation, or an infection from above, such as a perforation of a duodenal or gastric ulcer, or may be from a perforative cholecystitis. That patient develops at once a suspension of peristalsis and inability to secure a bowel movement; the temperature begins to rise and the leucocytosis to shoot up; vomiting with great prostration ensues; abdomen becomes tympanitic with a complete paralysis of peristalsis, you may give enemas or do what you may, but no bowel movement occurs until possibly an hour or so before death.

There is only one sure way to cure adynamic ileus resulting from general septic peritonitis and that is, to take out the appendix, drain the gall bladder, or give the gastric or duodenal ulcer the proper surgical treatment before the peritonitis has occurred. The man who has had to manage such a case needs no further argument for the early operation.

Dynamic ileus is found in lead colic and tyrotoxican poisoning, the latter of which causes the obstinate coprostasis with milk and occasionally with ice-cream poisoning.

The reports of the cases in the literature tell of the tonic contraction of the intestines into hard fibrous cords. This condition is often erroneously diagnosed and operated as a case of mechanical obstruction, as was done in one of my cases. If I had made the proper diagnosis and administered morphine, the chances are that this case would have been living today. This statement of giving morphine for a case of intestinal obstruction, for its radical cure, may sound orthodox, but the literature from the best authorities bear me out in this statement.

The mechanical obstructions are the group which we shall next consider, and the ones which it has been the misfortune of my colleagues and myself to deal with in a goodly number of cases, thereby prompting me to attempt to write this paper.

The conditions, which most frequently produce mechanical obstruction, are the external hernias, adhesions, diverticula, volvulus, intussusception and neoplasms. Of the external hernias, the inguinal is by all odds the most common. However, in the female the femoral hernia is more commonly the cause of obstruction. The umbilical and ventral hernias are very often the cause of obstruction. We all are familiar with the symptoms of strangulated hernias and also know the treatment, so I will not dwell longer on this condition.

Let us consider how the symptoms of the mechanical type of obstruction differ from adynamic and dynamic ileus. With the mechanical type there is always pain in the adult patient, recurrent and colicky in character, then nausea and vomiting, the vomiting increasing as the length of time from the onset increases, thus differing radically from the reflex type in adynamic and dynamic ileus, which diminishes as the length of time from the onset increases. Borborygmus is another useful sign. This sound is due to the explosions in the bowels in the effort of the peristaltic wave to overcome the obstruction. With mechanical obstruction, without infection, there is always borborygmus present and can very often be heard several feet from the patient. You can also see this peristaltic wave by exposing the abdomen. Sometimes the abdomen will ball up in ridges almost as large

as one's arm and move about over the entire abdomen.

Perhaps the point next in diagnostic importance after borborygmus is emesis. It is chiefly of the overflow type, the lower the obstruction the greater the quantity of overflow. In mechanical obstruction the violence of the vomiting always increases as time goes on, while in the non-mechanical type the vomiting, which is of a reflex action, constantly diminishes as time goes on.

Some conclusions may be drawn from the character of the material which the patient vomits. First, the vomitus is mucus and stomach contents, which later becomes mixed with bile, then the character of the vomitus becomes a little more offensive, and gradually more so, until you say it is fecal. However, John B. Murphy says that he has seen fecal vomiting but three times in his entire experience, extending over a period of a third of a century, and further says that fecal vomiting occurs only so shortly before death that it just misses becoming one of the post-mortem signs, and the doctor who waits for fecal vomiting to appear before making his diagnosis of intestinal obstruction will pass the undertaker on the patient's door-steps. However, the vomiting of a pea-soup-like material with a foul fecal-like odor is particularly significant of an obstruction.

To recapitulate, will say that with the "symptoms complex" of obstruction as obstipation, pain recurrent and colicky in character, vomiting with an increasing severity of a pea-soup consistency with a foul odor, borborygmus, violent reverse peristalsis, normal or subnormal temperature, we should rarely fail to make a diagnosis.

Without boring you further with a detailed description of this condition, all of which you can find in your text-books and much more explicit than I can possibly describe them, I shall now attempt to give you a report of the cases that we have had the misfortune to deal with. I say misfortune, because I think no man has or ever will build up a good surgical reputation by dealing with intestinal obstructions, as all our best authorities place the mortality rate from this condition at from thirty-three to eighty per cent. Yet I feel that we have been, on the other hand, fortunate in gaining considerable experience that we did not formerly possess.

Before reporting cases, allow me to express my gratitude to my colleagues in Arcadia for furnishing a goodly number of these cases, and allow them due credit for contributing to these reports, to all of whom I feel very grateful.

Case 1. J. C. R., male, age 35 years; printer. Previous history negative, except for past two or three months would have an occasional colicky cramp like pain in abdomen. Present illness began July 1, 1912. Patient became constipated, was unable to secure a bowel movement, had cramp-like pain in abdomen, which would recur every few minutes.

I was called on July 2, 1912, found patient with normal temperature and pulse, was anemic, and every few minutes would have cramp-like pain in abdomen; vomiting of the overflow type; upon examination found that during time of his pain abdomen would knot up into ridges almost as large as one's arm. After watching patient for a few minutes, and knowing that he had been a printer for a number of years, made diagnosis of lead colic. Did everything known to myself and all the authorities I could consult for lead colic, but patient grew progressively worse and on July 10, 1912, joined the great beyond.

Post-mortem examination revealed tumor in ileum the size of hen's egg about three or three and half inches above ilecocecal valve. Diagnosis of a malignant neoplasm and not lead colic as was supposed.

Case 2. Mrs. F. S., age 35 years. Entered hospital February 10, 1914. Family history negative. Present illness: had been constipated for several months, could get a bowel movement only by laxative and

enemas. On February 5, 1914, patient left the North for Punta Gorda where her husband had bought a farm. She did not have a bowel movement during her entire railroad trip extending over several days, but thought nothing of it until she reached home and began to take laxatives and enemas, and being unable to secure a bowel movement, or even to pass any gas, she became alarmed and came to see Dr. D. L. McSwain, who made a tentative diagnosis of intestinal obstruction. Patient entered hospital February 10, 1914, where she was watched for several days. We used laxatives and enemas, but could not secure a bowel movement, or even passage of any gas. Patient began to vomit with paroxysms of cramp-like pain in abdomen, and by inspection you could see her abdomen knot up into ridges and she would cry out with pain. Operation was decided upon and patient was operated on February 16, 1914. Upon opening the abdomen a tumor was found almost the size of your fist at the junction of sigmoid and splenic flexure of colon. Tumor was too low to do a short circuiting or side to side anastomosis, so we incised gut just above ileocecal valve. Made a side to side ileosigmoidostomy, leaving colon in situ. Appendix was examined and found normal and was not removed. Abdomen was closed with drainage. Patient did well until the seventh day, when she suddenly had a very severe pain in abdomen, and pulse began to shoot up, abdomen became tympanitic, vomiting recurring and things in general began to look bad, so we reopened abdomen and upon doing so found that the gas in the colon had become so great that it blew off the apex of the appendix and turned loose infective material into the general peritoneal cavity. At this time we opened the colon, evacuating its contents and inverted the raw edges and closed the abdomen with drainage. Patient made an uneventful recovery and left the hospital two weeks later, in apparent good shape, and remained so for about one year, when all the symptoms of obstruction recurred. Abdomen was again opened and we did a Mikulicz operation, which is to bring a loop of the colon with the tumor out of the abdominal incision suturing the parietal peritoneum around the loop and leaving it for a few days until it has cofferdammed, when we cut away tumor and gut leaving a double-barrel arrangement, to which afterwards we applied a heavy pair of forceps with one blade in each double-barrel arrangement, allowing them to remain until they cut themselves through. The fistulous opening in abdomen closed in due course of time and patient did well for several months, but tumor recurred from a metastasis and patient died June 26, 1916, from carcinoma of sigmoid.

Case 3. Mrs. J. McL., female, age 62 years. Admitted to hospital February 20, 1914, by Dr. R. L. Cline. Had been suffering from obstipation for several months. Few days before admission patient began vomiting and was unable to get a bowel movement by either a laxative or enema. After a few days, colicky pains appeared in abdomen, vomiting began, whereupon a diagnosis of intestinal obstruction was made, operation advised and performed February 24, 1914. Found tumor at junction of splenic and sigmoid flexure of colon filling almost the entire lumen of gut. We did a short circuiting or side to side anastomosis, leaving tumor in situ. Patient had an uneventful recovery and was in apparent good health until about February 1, 1915, when obstruction again recurred from a progressive growth of tumor. Patient was again admitted to hospital on February 7, 1915, and abdomen reopened, the tumor being so low down and we having taken up all the redundant bowel at previous operation we decided to do a Mikulicz operation, as before described in Case two. Fistula remained open for several months and patient did well until finally fistula closed up by granulation, whereupon patient immediately began having symptoms of intestinal obstruction. Patient had become so emaci-

ated that owing to her old age and weakened condition we thought it well to leave her alone. Patient died about July 19, 1915, from carcinoma of sigmoid.

Case 4. E. T., male (col.), age 35 years. Family history negative. Personal history: Patient had always enjoyed good health until about two years previous to present illness, when he began to suffer from constipation, which grew progressively worse, and for the past six months he could not secure a bowel movement unless he would either take an enema or laxative, and magnesium sulphate seemed to give him more relief than anything else, as it would liquify his feces and thereby give him a free evacuation. I first saw case on October 15, 1915, in consultation with Dr. D. L. McSwain; at this time patient was having abdominal pain, recurrent and colicky in character, vomiting, borborygmus, violent reverse peristalsis and subnormal temperature.

On rectal examination you could palpate a large mass high up in the rectum just above the superior border of prostate gland, with the "symptom complex" of obstruction. We decided on an operative procedure and patient was operated October 20, 1915. On opening abdomen we found a tumor mass about three inches in diameter at junction of sigmoid and rectum filling almost the entire lumen of the gut; this tumor was evidently either an adenofibroma or adenosarcoma, but with our means at hand we were unable to say which.

We did a side to side anastamosis, joining lower end of sigmoid to rectum, leaving the tumor in situ, and closed abdomen without drainage. Patient made an uneventful recovery, leaving the hospital in two weeks, and has remained well ever since and today is doing very hard work running a dray for a hardware and furniture establishment.

Case 5. L. J. B., male, age 45 years. Family history negative. Personal history: About ten years previous patient had some abdominal operation but does not remember of what nature. Present illness began July 14, 1914. Patient was taken with severe diarrhea which lasted for two or three weeks. Was in hospital ten days, having frequent stools of mucus and blood. Had an apparent recovery and remained well until November 10, 1914, when he reentered the hospital with another attack of diarrhea. This lasted for a week or ten days, when diarrhea ceased, vomiting with cramp-like pains in abdomen occurred. Was unable to retain anything. We were unable to secure a bowel movement from any means. Operation was decided upon. Patient was operated on November 10, 1914. On opening abdomen we found a loop of ilium had become adherent posterior to the wall of bladder and had ulcerated into its cavity producing a complete obstruction. This loop on traction was easily pulled through which left an opening in posterior fundus of bladder about an inch in diameter and looked as though you had taken a punch and made this opening, so smooth were its walls. Opening in bladder was closed by Lambert sutures. Abdomen was closed with drainage. Patient did well for about one week when he became suddenly worse and died in forty-eight hours.

I was away at the time of his death, therefore did not get a post-mortem and am unable to explain cause of death, but from all reports think he must have died of acidosis.

Case 6. Baby B., male, age 2 years. Was referred to hospital by Dr. R. L. Cline, July 14, 1914. Family and personal history negative, until twenty-four hours previous when he came into the house from his play, complaining to his mother of pain in his abdomen. Soon began vomiting, which grew worse all afternoon and night. Next morning when I saw patient he was in a state of apparent collapse, abnormal temperature, rapid pulse, also rapid breathing. Diagnosis of intussusception had already been made by Dr. Cline. Abdomen was opened and we immediately found a well-

developed case of intussusception, which we soon corrected and closed the abdomen. Made a favorable prognosis, but patient did not do well and died twenty-four hours later from what we had supposed to be a recurrence of the intussusception, but post-mortem did not reveal a recurrence as we had supposed. Patient must have died from shock.

Case 7. S. I. S., male, age 62 years. Family and past history negative. Present illness began about January 1, 1915, when patient became unable to retain any food. Soon after bowels became constipated and could get only a slight movement by laxative and enemas. Patient entered hospital February 16, 1915, very much emaciated. Could not retain any solid food on stomach but was able to take small amount of liquid, which he would retain unless he would take a little too much when he would vomit. Soon developed cramp-like pains in upper abdomen, especially after taking food. Patient was watched for several days. Tentative diagnosis of either duodenal or gastric ulcer was made. Abdomen was opened on February 20, 1915, found carcinoma of pylorus and a posterior gastro-jejunostomy was done. Patient made an uneventful recovery and left the hospital alone, for his home at Sarasota, two weeks later, in apparent good shape.

I did not hear from the patient until about six months ago, more than a year after operation, when he called on me at my office and was still in apparent good shape, except in the right epigastrum you could feel a tumor the size of your fist, which he said gave him an occasional pain. I told him that I felt I could do nothing more for him and that he should get ready to pass to the great beyond before many months.

Case 8. Baby D., male, age 2 years. Was brought into my office on morning of May 8, 1916. Was in a semi-comotose condition. Temperature abnormal, pulse very weak and breathing rapid and shallow, cold clammy perspiration. Patient was well and hearty up to twenty-four hours before I saw him when, his mother says, he came into the house from his play complaining of pain in his abdomen. Patient soon began to vomit. Parents gave oil and enemas trying to secure a bowel movement but failed. Patient was restless that night, and next morning was brought into my office from his home twenty miles away, with picture as above stated. I made a tentative diagnosis of intussusception and advised immediate operation which was consented to. Patient was immediately carried to hospital and abdomen opened under ether narcosis and strict search made for the obstruction but none was found; but the intestinal tract, both large and small, was in a state of spastic paralysis, the muscularis of the entire gut being contracted into a hard fibrous cord. Patient of course was not relieved and died twenty-four hours after operation. Had I made correct diagnosis and given dose of morphine, patient might have recovered.

INTESTINAL OBSTRUCTION FROM GALLSTONE—REPORT OF A CASE.*

R. R. Sullivan, M. D.,

Lakeland, Fla.

A male patient, age 68, when first seen on October 19, 1916, stated that he was taken the evening before with colic and vomiting and that these symptoms had continued during the night and forenoon of the day. As he was still vomiting food taken the day before, I made a tentative diagnosis of food impaction in upper part of small intestines not far below the duodenum.

Going more fully into his personal history when I saw him next day, I found that excepting three attacks of malaria, the patient had been in good health until 1899, when he had an attack of colic and vomiting of one day's duration; diagnosed "bilious colic." From this time until about June 1, 1916, a period of seventeen years, patient's

*Read before the Polk County Medical Society, December, 1916.

health was good. On this day he began to feel sluggish and sleepy, and noticed that his skin was slightly yellow, but states that it was not the deep yellow tint of jaundice. This condition continued about the same until June 15th, when he had the additional symptoms of sour stomach and a rumbling uneasy feeling in the stomach. In the early morning of June 17th, he was awakened with a severe colic in region of liver. At the same time he felt a hard lump below the region of the liver. His attending physician

made a diagnosis of gallstones. This attack of colic kept up for about eighteen hours and he was bedfast for four weeks following, but during these four weeks had no return of the colic. During this illness the lump remained below the liver, but instead of having symptoms of intestinal obstruction he had a diarrhœa.

He gradually recovered, soon regained his normal weight and remained well until on the evening of October 18th, the beginning of the present illness. With this history before me and finding the hard, freely movable tumor, I made a diagnosis of obturation ileus either from gallstone or carcinoma. As patient had regained weight after an attack in June it was safe to make a diagnosis of gallstone impaction.

At operation done on June 20th, about thirty-six hours after onset of attack, I found a large gallstone completely obstructing the ileum. Stone is 3½ inches in circumference and 1½ inches long. Patient made an uneventful recovery, leaving the hospital on eighth day.

Obstruction of bowels from gallstone is comparatively rare, as one large hospital reports only one case in nineteen years; another only one in fifteen years; Johns Hopkins reports one from this cause in 280 cases of obstruction of bowels.

Preoperative diagnosis is seldom made. It is based upon signs and symptoms of obturation ileus. Systematic use of X-ray may prevent mistake and help to make an early diagnosis.

Operative mortality is high. One series gives an operative mortality of 69 per cent; another a mortality of over 50 per cent. Delay in diagnosis and operation is the chief cause of high mortality.

AN ADDRESS

On Surgery, particularly considered as a future for young men and women, delivered before the High Schools of Tampa.

John S. Helms, A.B., M.D., F.A.C.S.,

Tampa, Fla.

The honor of being called upon to address you upon this subject is only equalled by the responsibility of its acceptance. It is indeed a privilege of which I am most proud. It elevates me at least for the time being to the exalted position of a teacher. Teaching is, next to medicine and surgery, man's most noble calling. Permit me, therefore, to congratulate the teachers upon their choice of a vocation. God in His omniscience, when He created man, placed within His soul, mind and conscience, one burning,

never-ending desire, that of creating something. This desire stands out preeminently above all things else. Fatherhood and motherhood are centers around which revolve all human activities.

Teaching is creative in its work. It is the art and science of building human character, men and women, from the embryonic materials furnished by parenthood. Its position is exalted and its responsibilities are beyond measure. The mental, physical and moral welfare of the individual and the security of the nation, depend upon the education of our people. Our fitness for any human activity is measured directly by our educational preparedness. Preparedness seems to be the slogan of the hour, and perhaps justly so. The most efficient preparedness must, however, come about through education — constructive and not destructive. We need a practical education that will help us do things and not dream them.

This is a day of maximum efficiency and special fitness for the special occupations of life. The young man or the young woman, and even the child, can not choose too early their life occupation, and their early education should be directed towards fitting them for their chosen calling. Education should be general enough to give each a broad view, an acquaintance and sympathetic touch with all occupations, but especially directed towards one. The study of Greek and Latin should be confined largely to those whose occupations involve the study of the sciences, and only enough should be acquired to properly comprehend them.

The science of surgery requires long and painstaking study, the fundamental basis of which should be laid in the High School. The study of physics, chemistry, biology, hygiene, sanitation, physiology, and anatomy lays the first and most important firm foundation for the study of medicine and surgery for those who choose either for life's work. These studies are very important even to those who do not expect to study medicine and surgery, for it affords a thorough basic knowledge for right conduct to preserve life and health and give the power to judge correctly those who assume to practice medicine and surgery, and thus enables you to intelligently choose your physician and surgeon, which is important in this day of imposters and multiplicity of 'isms and 'pathies. This knowledge also enables you to better understand the explanations of your physician and surgeon's diagnosis and treatment in case of sickness, and therefore secure a more intelligent cooperation for cure. It teaches you to intelligently avoid the ignorant and dishonest, also to avoid the use of injurious patent medicines and nostrums, adulterated foods, and alcohol. Furthermore, this knowledge compels you to be better citizens in that you will be able to select for our law-making bodies men who will enact proper laws for the protection of the people against the impositions of the incompetent in medicine and surgery, and the ravages of patent medicines, alcoholics, and adulterated foods.

Surgery may be defined as the science and art of curing diseases and injuries and correcting deformities through mechanical means. The science is a study of the theory of the principles of surgery and is paramount. The art of surgery is simply the execution of the procedures indicated by the proper application of the science of surgery in the given case. A popular conception of a surgeon is a reckless, dare-devil individual who has what is commonly called the "nerve to cut." There was never a more erroneous conception of the proper fitness for anything than this is of the proper fitness for a surgeon. On the contrary, the surgeon should be deft of finger, absolutely devoid of recklessness, careful, gentle, sympathetic and painstaking, and a thoroughly scientific individual.

Time will only permit me to recite to you a few of the brilliant achievements of surgery. There is scarcely a part of the human body that is not invaded by the surgeon at some time. Even the heart and the brain, two of the most vital organs, have

been and are successfully operated upon. Diseases which were formerly considered to be medical diseases, and practically incurable, are now cured by surgery. This is particularly true of the diseases of the digestive system, or the gastro-intestinal tract. The now well-known and quite common disease, appendicitis, which was a few years ago little understood and less amenable to treatment, has been robbed of its dangers by the intelligent application of surgical treatment. Many forms of chronic indigestion, whose causes were unknown formerly and which did not yield to treatment with medicine, are now known to be due to chronic infections of the gall bladder, with or without stones, and are now safely and successfully treated by surgery. Diseases of the stomach itself, including ulcer and cancer, are being successfully treated by surgical means. We do not hesitate, if necessary, to remove the greater part of the stomach.

Many diseases of the nervous system are being cured by surgery. Surgical diseases of the nervous system are so numerous and so common that there are men who do no other kind of work except this branch. Brain abscesses, brain tumors, epilepsy, and many forms of neuralgia, as well as injuries to the nervous system are prominent among the diseases amenable to surgical treatment. All of you can recall examples of the efficiency of surgery in the treatment of fractures and diseases of the bones. We do not hesitate to transplant parts of bones and even joints, with brilliant results.

Our means of diagnosis of surgical diseases have wonderfully advanced in the last decade or more, among the most notable may be mentioned the X-ray. The proper application of the X-ray serves as a valuable aid in most surgical diseases of the human body.

This little glimpse into the achievements of surgery may suggest to the mind of some of you the attractiveness of surgery as a profession. This leads naturally to two questions, viz.: First, what is involved in the fitness of a successful surgeon? Second, what are his rewards? Fitness may be divided into two classes, natural and acquired.

The first and most important requirement is a natural endowment, with a heart, mind and conscience filled with the most altruistic principles. The humanitarian spirit must be well developed. A deep human sympathy must be a natural endowment. A high sense of responsibility and conscientious duty, joined with industry and a pleasing personality, constitute the natural fitness for the successful practice of surgery.

The acquired fitness may be summed up as follows: A thorough preliminary education as is required by the A. B. degree in the average state university before entering upon the study of medicine and surgery. The M. D. degree secured in a college recognized as A-plus by the Association of American Medical Colleges, with at least a four-years course requirement. After the M. D. degree is secured two years should be spent gathering clinical experience in a well-regulated hospital recognized by the American Hospital Association and approved by the Association of American Medical Colleges, then five years should be spent as assistant to some recognized successful surgeon. After these requirements are fulfilled the young man or young woman may be said to be ready to engage in the practice of surgery in one or more of its branches. I say young woman advisedly, for there are women who are successful in different departments of surgical work. In fact, all the allied branches of surgery offer splendid opportunities for women. For some of them they seem particularly adapted by nature. Women make very efficient anesthetists, surgical assistants, and pathologists, as well as the most ideal surgical nurses, and there are no more useful or dignified occupations than these for women.

The profession of surgery being largely humanitation, necessarily, the financial rewards are small. There are a few whose achievements are so great that their reputa-

tions spread far and wide, but one rarely meets the wealthy surgeon who has made his fortune by his profession, and scarcely none die rich.

Considering the amount of work done, time consumed, and money spent in the proper preparation to become a real surgeon, I consider the financial rewards less commensurate than most other callings. Fortunately, there are other rewards greater than financial that come to the true surgeon, who has the proper humanitarian spirit. Surgery is founded upon scientific facts capable of proof to the intelligent and sufficiently educated mind, and is therefore a legitimate profession. The consciousness of being engaged in a legitimate calling is a reward. To be held in high esteem by the individual and the public at large as a benefactor is a reward. To be able to remove the ills of mankind and thereby relieve human suffering and misery is a reward. To have the power and knowledge to teach one's fellow man health and happiness is a reward, and last but not least, to be able to bring cheer and soothe the brows of those beyond the power of the human surgeon and point out to them the Great Surgeon beyond is a reward.

SENILITY.

W. C. Chowning, M. D.,

New Smyrna, Fla.

Senility is commonly likened to second childhood, but not only is their anatomy different but their mental and physical functions as well. Irritability is marked in childhood but decreased in old age, the sense perceptions being much less active in those of advanced years. Slight disturbance in childhood will cause a pronounced rise in temperature, while a profound impression is needed to cause a like rise in the aged. The heart and respiratory centers are easily disturbed. Functional capacity of all kinds is much reduced. Acts now require a sensible effort which were formerly done unconsciously. The male of advancing years acquires a higher voice and a broader pelvis, approaching in type that of the female. The female commonly acquires a lower voice and a growth of hair upon the face. Insufficient repair is found especially in the higher order of tissues such as brain, marrow, spleen and muscle, all of which require a plentiful blood supply, while the lower order such as fat and hair may have an increased growth. Intestinal decomposition products are increased while the urea and uric acid eliminated is much reduced. As a pulse of 120 is normal in infancy so are the degenerations, hypertrophies, etc., of old age. The brittle bone of the aged is as natural as the elastic bone of childhood. The dependent child arouses sympathy while the disagreeable facial aspect, limited usefulness and self-centered mind of old age destroys sympathy or gives rise to a feeling of irritability.

Growing infirmities and the more frequent thought of the little time of life remaining cause the selfishness of old age as well as the stubborness and perversity so commonly found. Mentally, recent impressions fade quickly while the interest in daily events is lessened. Owing to the impaired circulation and lessened oxidation of blood, cyanotic lips, pale ears and passive hyperemia over the malars and tip of nose is commonly seen. The waste of muscles is determined by their activity, their fatty degeneration being delayed in those that have received the most use. Because of the combined mental and physical deterioration, one who may have formerly been quite neat in appearance may become slovenly or dirty in appearance. Some difference in these changes occur in men and women, the latter being influenced by the menopause, while their greater pride or vanity leads them to make a greater effort at good appearance than men. Their religious tendencies often make them more resigned to the inevitable and thus more cheerful, this, with sex, bringing them a greater degree of sympathy than is given the old man. While great changes occur in

bones, cartilages and muscles, the greatest is in the circulatory system. Hypertrophy of the heart is much influenced by the arterial conditions. These first show a hyperplasia of the connective tissue of the intima which produces stiffening of the vessel, thickening of the inner coat and lessening of its caliber, nutrition of the vessel becomes disturbed, the inner coat becomes soft, fatty and atheromatous foci develop, muscle fibers waste, calcification is progressive and may reach a point where the pulse can not be felt. The lessened lumen may proceed to complete obliteration and produce gangrene. The heart must hypertrophy to force the blood through the contracted inexpansible blood-vessels, and an aortic insufficiency is the rule in old age. The endocardium undergoes similar changes to the intima of the arteries. The veins lose muscle and elastic fibers and are subject to overfilling and dilatation.

Lung atrophy is progressive, the septa between the alveoli waste and the air vesicles coalesce, producing senile emphysema. When this change is advanced, the upper lobe of the left lung sinks forward over the lower lobe while the middle lobe of the right lung sinks forward over the lower lobe. The loss of respiratory capacity is about 1 per cent per annum after sixty years. In the digestive tract the teeth are lost, lower alveolar processes waste, salivary glands atrophy and their secretions diminish. The stomach dilates through atony and wàste of muscle fiber. Glandular atrophy produces a lessened amount of hydrochloric acid. Muscular change in the large intestine favors its dilation, which is most marked about the sigmoid flexure. Because of impaired circulation hemorrhoids are common. There is increase of connective tissue with hardening and contraction of the liver. If there be weakened heart action it will become engorged. The kidneys undergo sclerotic and atrophic changes similar to those found in interstitial nephritis. There is a progressive increase of connective tissue between the apex of the pyramids from youth to old age which is the only histological evidence of aging not found as a pathological condition. The glomeruli, loops and tubules atrophy and connective tissue bands compress the parenchyma. Connective tissue bands in the bladder walls produce constriction with pockets between them. The sphincters atrophy, permitting dribbling. In one-third of the senile cases there is irregular muscular hypertrophy of the prostate which is most common in the middle lobe. Atrophy of the testicle occurs as in other organs and the number of spermatozoa is decreased, but not their activity or functional powers. The brain changes are atrophic and degenerative which is mainly confined to the cerebral cortex and is most marked in the left hemisphere. Atheromatous changes are more marked in the vessels of the brain than in any other organ. Functional change in the various organs usually terminates life before there has been much change in the nerves, except those of special sense.

FACTORS INFLUENCING THE DEATH RATE IN SURGICAL AND MEDICAL APPENDICITIS.

R. R. Kime, M. D., F. A. C. S.,

Lakeland, Fla.

I do not expect to present anything new on this subject, but desire to repeat and emphasize a few facts that mean life or death to the patient.

From experience, I feel certain some general practitioners do not recognize the gravity of certain lines of treatment and their responsibility in handling these cases. Some few physicians do not recognize the benefits of surgery soon enough and others fail to recognize the gravity of the danger period in appendicitis. Every physician should know the classic symptoms of Murphy (1): *"Pain, nausea and vomiting, local sensitiveness, elevation of temperature,* and *an increase in the number of leucocytes."* He states "nausea and vomiting never precede pain in appendicitis; that tem-

perature never precedes pain in appendicitis."

Cathartics and food in acute appendicitis are as dangerous as dynamite. Early operation for appendicitis while the infection is confined to the appendix is comparatively safe, i. e., the first twelve to twenty-four hours and every twelve hours thereafter increases the risk.

The great danger period for surgery is after the second day, possibly the third in some cases, until the acute infection subsides. Until the general practitioner recognizes and acts on these cardinal principles, the death rate in appendicitis will be high. So long as the death rate is unnecessarily high, some one is responsible and that one in most cases is the physician who has charge of the case first, unless the patient refuses to accept advice.

How shall that death rate be lowered or prevented?

First—Advise operation in all interval cases where the patient has had more than one attack, where there is evidence of chronic appendicitis, and in all cases where tenderness over the appendix remains after an acute attack.

Second—Advise operation in all acute attacks while infection is confined to the appendix if a competent surgeon can be had.

Third—Immediate operation in all fulminating cases and cases of rupture with free extravasation into peritoneal cavity.

Fourth—Proper care and treatment of all cases that refuse early operation or those that have passed into the danger period.

Fifth—In the danger period operation is imperatively demanded for rupture and free extravasation also necessary in abscess formation.

The death rate in surgery of the appendix depends on when and how the operation is done, and the condition of the patient at the time.

The death rate in cases treated medically depends on the amount of cathartics, the time given and the amount of food given, and also other medication and care. The death rate in interval operations should not exceed one-fifth to one-half of one per cent, and in early operations should not exceed one per cent unless extending into the danger period.

Murphy states (3): "The average hospital mortality of hospitals that publish reports is just a little over 10 per cent." He considers there is no palliative excuse for a 10 per cent mortality in appendicitis. In the best hospitals 98 per cent of all cases are saved. Murphy also states (4): "The mortality rate of appendicitis in children is three to four times as high as in adults."

From complications and condition of the patient it is inevitable that operations in the danger period will always be high in the hands of the average operator, yet free drainage, proctoclysis and the Fowler position have reversed the death rate in severe cases.

Early operations in acute appendicitis are curative and preventive. Curative in that the diseased appendix is removed while the infection is yet confined to the appendix, preventive in that the danger period is eliminated and no danger of subsequent attacks.

Operation during the danger period is much more dangerous and should usually be a life-saving measure or for an abscess.

As a rule it is best and safest to carry a patient through the danger period and later when in good condition do an interval operation.

An interval operation is safest and other surgical work can be done at the same time, thus avoiding multiple operations.

In early operations there is too much risk of spreading infection to do other work at the same time.

Operations in danger period depend on complications and condition of the patient. If there is rupture and free extravasation into the peritoneal cavity, then a minimum of anæsthetic, rapid opening of abdomen, quick removal of appendix and free drainage followed with proctoclysis and Fowler

position are essential to success. If it is the handling of an abscess, the condition of patient and condition in abdomen will decide whether it is best to simply drain or do more complete work. If the vitality of the patient will permit and the search is not too prolonged and too many adhesions late in the danger period, then the appendix should be removed.

Murphy (5) operating on a case of abscess eighteen days after onset of symptoms states: "We do not tear up adhesions; we do not spread pus into other areas of the abdomen. It is an entirely different situation when an appendix case comes to us on the second, third or fourth day. There we have adhesions of the inorganic type—natural agglutinations; while on the eighteenth day we have organic adhesions. When we separate the agglutinations, we separate two non-absorbing surfaces. The lymph-spaces are coffer-dammed, and there is not the slightest danger of absorption from their surfaces. When we separate organic adhesions, then we tear up vascular areas—we produce a fresh vaccination zone, and we have all the dangers of infection which we would have if the patient had had no previous inflammatory condition."

Crile (6) says: "If appendix be not found readily, then its removal should be left for a second operation, after the abscess has completely healed. In other words, the protective wall of granulation must not be broken through, for a breach in this protective structure may mean spreading peritonitis, new abscesses, pylephlebitis and subphrenic abscess."

E. H. Haylor, Dublin (7): "Abscesses opened and drained only 15 per cent of cases recur and require second operation." He removes the appendix unless it requires manipulation that endangers life."

Moynihan (8) uses split rubber tubes for drainage, has no liking for gauze unprotected, as a drain in any part of the abdomen.

In abscess (9), if a prolonged search is required and adhesions have to be freely separated, he does not remove the appendix and has only 2 per cent recurrences. "The correct proportion of recurrences is probably 10 per cent."

The kind and quantity as well as the placing of drainage in these cases are very important factors. Soft rubber drainage tubes split, no fenestra and rubber tissue are best, if gauze is used, it must be inside the tubes or protected with rubber tissue. Never leave gauze in contact with intestines unless you want a fecal fistula to follow. The drainage must be carried to the bottom of the abscess into the pelvis and at times retrocecal so as to give free exit to pus.

Murphy claims (10): "The relief of pus tension is the first surgical step toward retarding absorption in all acute infections."

Crile (11) simply drains in these cases.

Irrigation is dangerous as it spreads infection, traumatises and washes off protective coating, carries infection up to the diaphragm and greatly increases absorption. Murphy (12) condemns irrigation also in all cases of infection with perforation.

The incision is a factor of importance in many cases. If one is certain the operation is one of simple appendectomy, the muscle-splitting incision will answer. If other work is to be done or complications met the incision at the border of the right rectus is best, as it can be enlarged to meet the demands in correcting adhesions, Lane kink, Jackson's membrane, retrodeviated uterus, diseased tubes or ovaries, or in handling gall-bladder work, ulcer of duodenum or of the stomach, etc.

This incision is safer and more practical in operations during the danger period.

We now come to the medical treatment as a factor in the death rate.

So long as some patients refuse to be operated upon in the first two or three days just so long will there be cases for medical treatment and that treatment should not kill if it does not benefit.

Cathartics are most dangerous and condemned by most surgeons.

Ochsner (13) writes: "The giving of cathartics of any kind during an acute gangrenous or perforative appendicitis at any time during the attack has undoubtedly destroyed more lives than surgery has saved in this disease."

DuBose (14) quotes Moynihan as saying "purgation spells perforation." Deaver as saying "the purgative is more deadly than the scalpel. In Deaver's statistics of one year's work, of those purged only 1.5 per cent escaped perforation, gangrene, or periappendicular abscess, and those to whom purgatives were given 97.5 per cent had the most severe types of appendiceal disease."

Ochsner (15) states: "In our personal experience no case of acute appendicitis has died in which absolutely no food of any kind and no cathartics were given by the mouth from the beginning of the attack."

Mumford (16), referring to the use of opium and ice on the one hand, and saline purges and poultices on the other, states: "Happily such treatment is now relegated by the best practice to the limbo of contemptuous oblivion."

In acute appendicitis nature checks peristalsis, locks the ileocecal valve, preventing passage of gas and feces, the abdominal muscles become rigid, the omentum drops down around parts to protect and help wall off, all working together tend to fix, protect and wall off the appendix.

Cathartics destroy these life-saving measures instituted by nature. Food does the same thing by starting up peristalsis, adds to nausea and vomiting, also to toxic material in alimentary canal and helps to kill the patient. The only time a cathartic is possibly indicated in acute appendicitis is when the attack comes on soon after a hearty meal of undigestible food and then olive oil or castor oil is safest, followed with a small enema. It is safer even then to wash out the stomach if a stomach tube can be had without too long delay. Every physician should know the details of the Ochsner treatment for appendicitis and use it in all cases that cannot or will not be operated upon. It is of special value in preventing complications during the danger period. I wish to repeat and emphasize that cathartics and food are as dangerous as dynamite in acute appendicitis.

Do not feed, do not give cathartics, wash out the stomach if vomiting, empty rectum with small enema, use proctoclysis in small amounts slowly to which should be added predigested foods, use ice cap to side, keep patient in the recumbent position in mild cases, in severe cases in semi-recumbent position, then you will have but few complications in the danger period and have but little use for morphia.

Occasionally one or two small doses of morphia may have to be given until you get the patient under control, but remember sudden cessation of pain in acute cases is a very dangerous symptom. If large doses of morphine have been given, you cannot recognize this danger signal of perforation until constitutional symptoms and general peritonitis begins, thus losing valuable time. Deiulafoy calls this "The Treacherous Calm."

I know Crile (17), in accord with his kinetic theory, advises giving morphia, but he also advises immediate operation, urging the Fowler position before, during and after operation until the abdominal infection is safely over. After operation this danger signal is not needed.

I do not know of anything more certain to kill your cases of acute appendicitis than cathartics and food, then morphine to lull the fire you have kindled and cannot quench, the majority with such treatment kept up will soon sleep the sleep that knows no waking "beneath the green curtain that never outward flows."

Why should it be thought a thing incredible that disinfectants given by mouth might influence or modify the course of appendicitis? Time forbids a full discussion of this

phase of the subject. It is not alone the local condition in many of these cases that produce the serious symptoms, but we have a secondary factor in the absorption of very toxic material from the stomach and intestines. Washing out the stomach gets rid of much of this toxic material, but not all of it, and in milder cases the stomach is not washed out, so in both instances the use of disinfectants help mitigate the toxic absorption.

Salol — salicylate bismuth — carbonate guaiacol, aa gr. iii, given every 2 to 4 hours for the intestines.

Carbolic acid gtt. i—Listerin—Pepsenica, aa ʒss, for the stomach every 2 to 4 hours.

One or both may be given with a small amount of water, alternating if both are given. These are not specifics for appendicitis, but help nature to overcome the burden she is carrying and aid in the establishment of immunity.

In conclusion I give a brief summary of the value of leucocytosis and differential blood count as an aid to diagnosis and as a danger signal:

Tyson (18), referring to appendicitis, states: "Leucocytosis is present in a large number of cases. It is an important diagnostic sign."

Bovaird (19): "A definite leucocytosis is definitely present and an increase of polynuclears usually associated."

Todd (20): "Leucocytosis depends on two factors; the severity of the infection and resistance of the individual. Leucocytosis may be absent altogether when the infection is extremely mild, or when it is so severe as to overwhelm the organism before it can react. When the leucocytosis is marked, a sudden fall in the count may be the first warning of a fatal issue. A marked leucocytosis (20,000 or more) nearly always means abscess, peritonitis or gangrene even though the clinical signs be slight."

Brooks (21): "The presence of more than 80 per cent of polymorphonuclears is indicative of purulent or inflammatory processes and the reliability of this condition is enhanced with the rise in percentage." He quotes Sonnenberg as saying "Leucocytosis explains the degree and virulence of the infection and the toxicity of an inflammation, and its further course reveals their increase or decrease. Occurrence of new foci and suppurations is revealed earliest by reincrease of the number of leucocytes and frequently these can be discovered in this way, even when the pulse and temperature are unaltered."

Stitt (22): "The leucocyte count is of great value in septic processes, especially when we obtain a leucocytosis of 80 to 90 per cent of polymorphonuclears. It is in connection with the question of operation in appendicitis or similar conditions that the matter of a leucocyte count is of prime importance. If there be a leucocytosis but with less than 75 per cent of polymorphonuclears, it indicates an infection of little virulence or a walled-off process with an exacerbation. It is difficult to form an opinion when the polymorphonuclears are under 80 per cent. Leucocytosis with a polymorphonuclear percentage of 85 to 90 indicates immediate operation; percentages over 90 point to peritonitis and if with such percentage of polymorphonuclears there is absence of leucocytosis, the prognosis is grave."

Eisendrath (23): "Catarrhal appendicitis is accompanied by a mild degree of leucocytosis, rarely above 12,000. An increasing leucocytosis, from 15,000 upward, generally indicates a severe infection. In some severe cases of catarrhal appendicitis one may find a count of 25,000 to 30,000. If the count remains stationary, it is indicative of a walling-off. If the leucocyte count decreases gradually in a mild attack, it indicates improvement. If it decreases suddenly after a severe attack, it signifies either gangrene, perforation with beginning peritonitis or the rupture of an abscess into the general peritoneal cavity. The majority of cases in which perforation or gangrene occurs early,

and causes peritonitis, we have a low leucocyte count, owing to the lack of resistance on the part of the organism and the overwhelming of the system by the toxines."

Murphy (24): "In early cases not so valuable as most cases are operated upon. In cases between the fourth and fourteenth days the line is very valuable as an indication of the patient's poor resistance and necessity for immediate operation. Operative findings in such cases bear out the leucocyte determination with wonderful accuracy. In cases like those just mentioned, a horizontal or falling line indicates the patient is taking care of the infection. If the latter is severe, as shown by a high though falling line, the patient may perhaps be given medical rather than surgical treatment. When such a case is kept under observation, the line should be determined each day; and should it start to rise, the patient may be subjected to operation.

Bottomly (25): "An increase in the relative number of polynuclear cells is an indication of the severity of the toxic absorption and the degree of leucocytosis is an evidence of the body resistance toward the infection. In other words, the polynuclear percentage is an index of infection; the total leucocytosis is an index of body reaction; their proportionate relationship is an index of resistance.

Thomas and Ivy (26): "It has been found that streptococci and pneumonococci are killed only by the blood plasma, i. e., by the leucocytic substances, these organisms multiply in serum alone. On the other hand, typhoid bacilli are destroyed by serum or humoral bacteriocidins. In this way is explained the clinical fact that in streptococcic and allied infections there is a marked leucocytosis, while in typhoid fever the leucocyte count remains normal."

To briefly condense we have:

1. An increasing leucocytosis with increasing polymorphonuclears indicates inflammation or infection.

2. An increasing leucocytosis with a corresponding increase in polymorphonuclears means an increasing infection and that nature is reinforcing to combat the same.

3. An increasing polymorphonuclear percentage indicates an increasing toxic absorption and the higher above 80 per cent the more danger to life of patient and especially so if the leucocytosis is receding or very low in proportion.

4. A stationary leucocytosis and polymorphonuclear count indicates a walled-off process, both gradually receding indicates improvement, a sudden dropping means extreme danger to patient.

5. A rapidly increasing leucocytosis with a corresponding increase of polymorphonuclears means a rapidly increasing infection and if continued indicates operation or serious result to patient.

6. After both are on a standstill or gradually subsiding, then a sudden reincrease indicates a new foci of suppuration or extension of original infection.

References.

1. Murphy—Surg. Clin., Vol. 1, No. 4, p. 481.
2. Ochsner—Manual Surg., latest ed., p. 238.
3. Murphy—Surg. Clin., Vol. 4, No. 3, p. 443.
4. Idem, Ibid., Vol. 4, No. 3, p. 446.
5. Idem, Ibid., Vol. 1, No. 4, p. 475.
6. Crile—Anoci-Association, p. 148.
7. Taylor (Dublin)—Operative Surg., p. 300.
8. Moynihan—Abdom. Surg., Vol. 2, p. 172.
9. Idem, Ibid., Vol. 2, p. 177.
10. Murphy—Surg. Clin., Vol. 2, p. 781.
11. Crile—Anoci-Association, p. 148.
12. Murphy—Surg. Clin., Vol. 2, No. 5, p. 776.
13. Ochsner—New Manual Surg., p. 245.
14. DuBose—Southern Med. Jour., April, 1916.
15. Ochsner—New Manual Surg., p. 255.
16. Mumford—Practice Surg., p. 32.
17. Crile—Anoci-Association, p. 148.
18. Tyson—Practice Med., p. 409.
19. Bovaird—Internal Med., p. 99.
20. Todd—Manual Laboratory Methods, p. 250.
21. Brooks—Text-Book Pathology, p. 666.
22. Stitt—Prac. Bacteriology and Blood Work, p. 176.
23. Eisandrath—Surgical Diagnosis, p. 296.
24. Murphy—Keen's Surgery, Vol. 6, p. 547.
25. Bottomly—Ibid., Vol. 5, p. 427.
26. Thomas and Ivy—Applied Immunology, p. 214.

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.

Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.

Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.

GRAHAM E. HENSON, M. D. ..... *Jacksonville*

ASSOCIATE EDITORS.

THOMAS TRUELSEN, M. D. ..... *Tampa*
J. K. SIMPSON, M. D. ..... *Jacksonville*

COLLABORATORS.

RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa ..... *Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville ..... *Pediotrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville .... *Eye, Eor, Nose and Throat*
I. L. KIRBY-SMITH, M. D., Jacksonville ... *Dermatology*
E. G. BIRGE, M. D., Jacksonvllle ..... *Bacteriology ond Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.

E. W. WARREN, *M. D.*, President ..... *Polotka*
JOHN A. SIMMONS, M. D., First Vice-President ..... *Arcodio*
E. VAN HOOD, M. D., Second Vice-President ..... *Ocolo*
JOHN LONG, M. D., Third Vice-President ..... *Loke City*
GRAHAM E. HENSON, M. D., Secretary-Treasurer ..... *Jacksonville*

EXECUTIVE COMMITTEE

R. H. MCGINNIS, M. D. ..... *Jacksonville*
JOHN MACDIARMID, M. D. ..... *DeLand*
R. N. GREENE, M. D. ..... *Chattohoochee*

COUNCILLORS.

First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920

Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917

Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917

Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville..1918

Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala..1919

Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa 1919

Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna 1918

Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920

Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918

Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia 1920

Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West 1917

COMMITTEE ON SCIENTIFIC WORK.

F. C. MOOR, M. D ..... Tallahassee
C. D. CHRIST, M. D ..... Orlando
F. F. FERRIS, M. D ..... Apalachicola

Next Meeting — Atlantic Beach — May, 1917

THE REMOVAL OF THE ECLECTIC BOARD.

The prompt action taken by Governor Catts in removing from office the members of the Eclectic Board of Medical Examiners, following disclosures showing their unfitness for office, is a matter for general congratulation not only to the medical profession but to the general public as well. The recent disclosures brought out in a preliminary hearing before a justice's court in Jacksonville made it plain that irregularities of considerable magnitude were going on, and that they had extended over a period of many years. It is frequently, in fact, is generally a difficult matter to collect sufficient evidence in cases of this nature to secure conviction in a court of law. THE JOURNAL is not informed of the status quo of the case from a legal standpoint, but it is a matter of congratulation that when Governor Catts was furnished with the evidence secured against the members of the board he did not wait on legal technicalities to be fought out in the courts, but promptly removed the entire board from office, thus doing a service to the general public.

THE JOURNAL OF UROLOGY.

THE JOURNAL is in receipt of the initial copy of *The Journal of Urology, Experimental, Medical, Surgical.* The name, as stated in the foreword, "expresses briefly the aims, hopes and ambitions of the editors."

Dr. Hugh H. Young, of Johns Hopkins, is the editor of the new publication. It presents an attractive appearance, containing numerous original articles of great interest to those engaged in this specialty.

THE ATLANTIC BEACH MEETING.

A preliminary program of the forty-fourth annual session of the Florida Medical Association will appear in the next issue of THE JOURNAL. The meeting promises

to be the most largely attended session in the history of the Association. While the hotel accommodations are ample, we would urge all members to secure their reservations early. All communications concerning hotel accommodations should be addressed to Mr. H. M. Stanford, Atlantic Beach Hotel, Atlantic Beach, Florida. Watch for his full-page ad display appearing in the April number.

THE ANNUAL CONGRESS.

Following is the report of the delegate to the Annual Congress on Medical Education, Public Health and Medical Licensure, held in Chicago at the Hotel Congress, February 5 and 6, 1917:

The papers read at this congress and the detailed transactions are published in *Journal American Medical Association,* February 17th and 24th, and in the Association Bulletin of this section, therefore the scope of the work and the impressions gained by the writer only will be discussed. It is very evident that the work done by this section of The American Medical Association has resulted in more lasting good than is generally known. The higher standards in medicine in force in the United States today are largely due to the activities of these conferences. The low-grade medical school has no place in America today, though a few states like our own will accept most any credential for examination. The number of medical schools in this country have been cut in half in a little over ten years. The standard for entrance has been raised until now only six per cent of the graduates (graduates last year) are without the college educational requirements required for entrance into our best medical schools. The state universities are making it possible for the poor boy to get his course in medicine. There is very little call now for legislation to let this six per cent through, and why should there be? The latest stimulus to higher medical education in our country is the National Board of Medical Examination. This board is not political and its examiners are men of the highest type from our best medical centers. Passing that board is equivalent to the highest degree given anywhere in the United States. They ask the medical schools to send only six or eight of their best students, others cannot pass. Its certificate admits to the Mayo Foundation and the Army and Navy. The state laws in many states are being amended to accept this certificate for licensure without examination, and justly so. These men will be a credit to any section and they will not be thrown on the public by the hundreds. It may be some years before we get a request for half a dozen such licenses in Florida.

The need of better laws in Florida safeguarding the establishment of institutions of learning is forcibly brought out when we consider that anyone without money, equipment, degrees, education or any foundation whatsoever can apply for and establish a school or college in Florida and give degrees. New Jersey and Colorado have lately made laws covering this important subject and with the aid of the better men we should get such laws in Florida as will make it impossible for any school to issue degrees without it meaning something. The need of these laws in all the states was discussed.

The matter of Canadian schools admitting our graduates is one of growing importance and upon investigation it is found that no Canadian school is on a par with our best. Ontario since last year has modified its stand and other provinces will likely do so at an early date.

The matter of dealing with the medical cults is an important one. Some men believe that in time they kill themselves if left alone; however, some one has to suffer severely while they are in existence, and to let them die is a dangerous method. It is up to the people and to us to insist upon their training and make it equal to our own.

Single standards should be the slogan for all of us in dealing with the cults and insistence upon a common basis for those who diagnose, no matter what the treatment shall be. If a man has the preliminary training required by our Class A Medical Schools he is not likely to prescribe one-sided, foolish treatment or short cuts as taught in correspondence courses. It is only the inexperienced who look for miracles in medicine, and it is not long before the follower of any cult (if he is honest with himself) will be looking for every means known for the relief of the many complications in disease. In doing this he wishes to practice real medicine and with his lower standards seeks a back-door to practice *real* medicine. It is up to us to guard these routes.

Some time was devoted to a discussion of "The Problem of Higher Degrees in Medicine." Dr. Horace D. Arnold, the Dean of the Harvard Graduate School of Medicine, presented the subject and mentioned establishing a standard for specialists. Degrees higher than a Master's degree indicate special skill and some feel they should be recognized granting such degrees as D.P. (Med.), M.S. (Med.) and M.A. (Med.) corresponding to similar literary degrees. Dr. Vaughan, of Ann Arbor, took the ground that we should go very slow in this country granting higher degrees and mentioned that many times higher degrees were a handicap to a man.

A symposium covering "Economy of Time in Preliminary and Medical Education" took considerable of the time. At present the time of graduation of the average student is nearly 28 years and this is thought to be too long. This can be cut down two or three years by the right regulation of the undergraduate schools. Studies that overlap in the High Schools and Colleges can be much better regulated than at present. A system similar to the system abroad is being introduced by the introduction of the Junior High School. President Judson, of the University of Chicago, and Professor C. H. Judd demonstrated how very well this can be accomplished by a getting-together process. It is agreed that the student puts too much time on many subjects which he has no use for after entering the medical course. After all it is not knowledge so much we are after as the training of the mind.

The subject of Practical Examinations by State Examining Boards was opened by Dr. Walter P. Bowers, of the Massachusetts board. The result of the work along this line was given by a member of the Minnesota board. It is quite evident that for older men this is almost an indespensible form of examination for State Licensing Boards. These examinations cover laboratory work in a practical way, covering blood, urine, X-ray photographs, bandaging, pathological specimens and methods used in examination on the living subject. The method used by applicant is of the greatest of importance.

The importance of this conference can be judged by a study of the character of the men present and interested in the work. The following is a partial list of those in attendance at this congress: Dr. Horace D. Arnold, Boston; Dr. Frank Billings, Chicago; Dr. Walter P. Bowers, Boston; Dr. John M. Baldy, Philadelphia; Dr. H. M. Bracken, St. Paul; Dr. Robert C. Coffey, Portland; Dr. W. B. Cannon, Boston; Dr. W. S. Carter, Galveston; Dr. N. P. Colwell, Chicago; Dr. Isadore Dyer, New Orleans; Dr. Herbert Harlan, Baltimore; Dr. B. D. Harrison, Detroit; Dr. Samuel W. Lembert, New York City; Dr. C. N. Suttner, Walla Walla; Dr. Wm. D. Haggard, Nashville; Dr. Victor C. Vaughan, Ann Arbor, Mich., etc.

Florida is not a member of the Federation of State Medical Boards of the United States, but your delegate attended their session and feels that the Florida Board should become a member of this organization. Every state should have a word in the classification of Medical Schools and

in other ways it is a great help to the state board. If a man has a bad record in one state, it can better be passed on by this organization and his course watched before he gets a license in another state. This organization can also assist in making suggestions for a common standard for medical licensure in all of the states. The more every medical man can become interested in the subjects discussed at such meetings the more he is going to do to help in raising the standard of physicians in this country. The making of high character in the medical man is largely with ourselves, and it seems to me that the Florida State Medical Society has this in view when it sends a delegate to such a conference.

FRED J. WALTER, M. D.,
Daytona.

CURRENT VIEWS REGARDING THE TONSILS AND THEIR SURGICAL REMOVAL.

Nowadays when any organ of the body attains a previously unsuspected importance so that considerable professional attention is concentrated on it, the circumstances is soon reflected in the interest and expectations of the layman. This is seen, for example, in the popular attitude toward the tonsils and adenoids. Few untutored persons have any conception as to the purpose, not to say the location and anatomic relations, of these lymphoid tissues. The physician may counsel the removal of one of the structures with a clear understanding that he is urging what is, in a sense, an experimental operation which may remove a possible cause of disease in other organs. The layman, encouraged by the apparent innocuousness of the operative procedure, soon begins to look on tonsillectomy as a sort of panacea for the most diverse ills; and somehow this state of mind occasionally seems to weigh in the balance with the professional man himself. That the uses of these lymphoid structures are so little understood is no reason for counting every prominent tonsil or adenoid in persons of school age as a defect. Indeed, there seems to be a wholesome reaction against the operations on tonsils in youth merely because they are prominent and noticeable. At the Johns Hopkins Hospital, for example, the practice is to regard the tonsils and adenoids in children as physiologically important parts of the mechanism which protects the lower air passages from dust and organisms.[1] If there are no mouth-breathing, no evidence of damage to the ears, no chronic enlargement of the glands of the neck, no cystic condition of the adenoids known as Thornwald's disease, and none of the so-called "reflex neuroses," the removal of adenoids regardless of their size or appearance is not recommended.

On the other hand, recent years have witnessed a growing interest in management of diseased tonsils and a widespread appreciation that the germ of tonsillitis may hit in many spots far removed from the local seat of obvious disorder. Tonsillar and nasopharyngeal infections have of late frequently become related, for example, to infectious and rheumatoid arthritis, myositis and acute rheumatic fever, to chorea, to hyperplasia of the cervical glands, and even to nephritis. If these relationships and other indications of the involvement of the tonsils as portals of entry for harmful microorganisms could be convincingly established, the indications for the removal of the tonsils both as a prophylactic and as a therapeutic measure would become clearer and more rational. It is of unusual value, therefore, to have available a carefully digested study of the relation of tonsillar and nasopharyngeal infections to general systemic disorders, based on 1,000 cases in which operation was performed at the Johns Hopkins Hospital during the past five years.[1] An added importance is lent by the fact that these operations were not done in a haphazard way in hurried dispensary service without experi-

[1]Crowe, S. J.; Watkins, S. S., and Rothholz, Alma S.: Relation of Tonsilar and Nasopharyngeal Infections to General Systemic Disorders. Bull. Johns Hopkins Hosp., 1917, 28, 1.

enced anesthetists or assistants; they were performed under the rigorous routine of a surgical ward, and the cases were followed up in order to learn the subsequent history with respect to disorders supposed to be secondary to a chronic focus of infection in the upper air passages.

As a result of the experience now collated, Dr. Crowe and his associates have reached certain tentative conclusions which may be helpful in the contemplation of tonsillectomy. They assert that the operation should never be undertaken during the acute stage of tonsillar inflammation, as a cerebral abscess may result. Diabetes is as much a contraindication for tonsillectomy as it may be for any operation necessitating general anesthesia. Tonsillectomy is rarely of benefit in the chronic deforming types of arthritis, in many cases probably doing more harm than good. The Baltimore surgeons are further convinced that nothing is to be gained from a tonsillectomy during the acute stage of chorea, acute rheumatic fever or endocarditis. Their experience shows that even after the nose and throat have been put in normal condition by operative measures these diseases may recur. In any event the tonsils are not the only portals of entry for the etiologic organism, and their removal in an interval free from symptoms can be justified only on the plea of preventing further cardiac lesions which may result from subsequent acute tonsillitis. The frequency of heart and joint defects in chorea may justify such a prophylactic measure.

In infectious arthritis in which the periarticular changes predominate, and perhaps also in myalgia, the promise of helpfulness from tonsillectomy is greater. In the early stages of glomerular nephritis it may also be worthy of some consideration. The tonsils are the most common site of the chronic infections which give rise to a hyperplasia of the deep cervical lymph glands near the angle of the jaw. The enlargement of the glands will rarely subside after treatment of carious teeth and alveolar abscesses alone. It seems advisable, therefore, under such conditions to consider the removal of the tonsils in cases of persistent palpable glands at the angle of the jaw, particularly if the patient has some general systemic disorder. The majority of the enlargements are apparently due to a chronic pyogenic infection which will subside after tonsillectomy. The others are due, as a rule, to persistent tubercle bacilli.

Obviously the advisability of a tonsillectomy in any individual case depends on the malady and the general condition of the patient. As the Baltimore investigators express it, tonsillectomy alone will not cure tuberculous cervical adenitis, arthritis or glomerular nephritis. It is necessary in such cases to apply general hygienic measures as well, so as to increase the patient's resistance. If the tonsils are the primary focus of infection, their removal in suitable instances may materially alter the prognosis by preventing a constant reinfection. Skillful surgery is indispensable. A partial occlusion of the crypts, resulting from an incomplete tonsillectomy, as sometimes happens, may actually aggravate the symptoms of infection by producing a mechanically made focus of trouble. Despite the many uncertainties and unsolved problems which still exist, however, Crowe and his collaborators state that their records "tend to support the evidence of Billings and others in regard to the importance of focal infections in many of the general disorders seen by the internist, the pediatrician, and the general surgeon."—*Journal of the American Medical Association.*

ANOTHER SHORTAGE OF SALVARSAN.

The indications are that the supply of salvarsan and neosalvarsan in this country has again reached the point of exhaustion. To the medical profession, who know the unfortunate results of a shortage of salvarsan on the health of the present and future generations, the situation is an exasperating one. Is there no remedy? Is our govern-

ment impotent to relieve the condition? Congress made our patent law; it certainly has the power to suspend the patent on any preparation that the patentee is unable to, or does not, supply when such suspension is in the interest of public health. It is well known that at the time of the previous shortage the Dermatologic Research Laboratory of Philadelphia manufactured the product under the name of arsenobenzol.[1] It is presumed—at least hoped—that in the present shortage the laboratory will again manufacture the product. It should meet with no legal difficulty, as the agents for the salvarsan manufacturers have intimated that they would not object to such supply of the product at times when they themselves were not able to furnish it. But such a relief for the situation is not a permanent relief—it is a makeshift. Monopolies on medicaments such as diphtheria antitoxin, salvarsan and the like are against public interest. The United States has granted process and product patents on salvarsan: even if any one in this country produced a salvarsan product or derivative which would be more curative and more valuable—on account of being less toxic, for instance—the patentees could effectually prevent its manufacture and sale. Again it should be emphasized that the fact that a most important drug is unavailable is the result of an act of Congress, and Congress has the power to modify its action so that the remedy may be made available.—*Journal of the American Medical Associatoin.*

NATIONAL BOARD OF MEDICAL EXAMINERS.

The second examination to be given by the National Board of Medical Examiners will be held in Washington, D. C., June 13, 1917. The examination will last about one week.

The following states will recognize the certificate of the National Board: Colorado, Delaware, Idaho, Iowa, Kentucky, Maryland, North Carolina, New Hampshire, North Dakota and Pennsylvania. Favorable legislation is now pending in twelve of the remaining states.

A successful applicant may enter the Reserve Corps of either the Army or Navy without further professional examination, if their examination papers are satisfactory to a Board of Examiners of these services.

The certificate of the National Board will be accepted as qualification for admittance into the Graduate School of the University of Minnesota, including the Mayo Foundation.

Application blanks and further information may be obtained from the Secretary, Dr. J. S. Rodman, 2106 Walnut Street, Philadelphia.

CAMPAIGN AGAINST UNCLEAN DAIRY UTENSILS.

An active campaign against the unsterilized milk can, pail, strainer cloth, and separator, as contributing causes to high bacterial count in city milk, is to be carried on this season by the United States Department of Agriculture in cooperation with the health and milk officials of a number of cities. Already health officers in 150 localities have accepted the department's offer to demonstrate to their local milk producers a simple homemade sterilizer, costing not more than $15, which if used on the farm will help guard the milk against this initial and serious contamination. How great a bearing sterilization of milk utensils on the farm has on the bacterial content of milk is shown by experiments which have proved that the average milk can, when washed in the ordinary way, may contain over eight billion bacteria, and that almost every milk can so treated harbors millions of bacteria which give a high bacterial count and hastens the souring of milk.

The homemade sterilizer for dairy utensils which is to be demonstrated uses steam as a sterilizing agent. All that is required

[1] A Canadian product, diarsenol, was also, and for that matter, is still available.

to develop steam enough to sterilize the ordinary dairy utensils is a two-burner kerosene stove, and there is nothing about the device which calls for special skill in its effective use. The department has twenty of these sterilizers, described in Farmers' Bulletin 748, and has offered to supply an outfit for a two-weeks' demonstration to any local health or dairy official who will agree to show it in operation to the milk producers in his section.

The effectiveness of this sterilizer has been fully proved both in the laboratory and on the farm. In one experiment 10 gallons of fresh milk were divided into two parts. Five gallons, passed through a separator into a 5-gallon can, both utensils washed in the ordinary way, showed at the end of an hour 1,880,000 bacteria per cubic centimeter. The other 5 gallons, passed through a separator into a can, after both utensils had been washed and sterilized by means of the home-made sterilizer, showed only 24,000 bacteria per cubic centimeter.

The device, moreover, removes foul odors and leaves the utensils dry as well as sterilized. Experience shows that the bacterial count is thus materially reduced, while the producer finds that his milk does not sour so quickly and has an improved flavor.

The specialists of the Dairy Division are hopeful that the device, wherever it is demonstrated, will come into common use. It is believed that this sterilizer will find ready adoption among small dairymen because of its low cost of construction and operation, and because its use will tend to improve the quality and increase the keeping character of the milk.

A FEW POINTERS.

Pointers for members to remember when speaking to their representatives in the legislature:

Physicians have no selfish motives in asking for better medical laws to protect the lives of the people of Florida.

In asking for a single standard of education for men who diagnose disease, regardless of treatment, we are asking for what should appeal to anyone.

Our present law is very defective and has no power to convict a man guilty of gross criminal acts.

The late disgrace to the state by the members of the Eclectic Board is alone enough to show the people the need of a clean-up in this whole matter.

We ask to avoid multiple boards and multiple routes to men who heal.

That the men asking for special privileges are men from other states coming here for a short time to make money and have not the spirit possessed by the true physician.

Press the matter of single standards and the avoidance of back-door routes with low standards.

Reviews from Current Literature

EXPERIMENTAL STUDIES WITH MUSCICIDES AND OTHER FLY-DESTROYING AGENCIES.

Earle B. Phelps and Albert F. Stevenson. Hygienic Laboratory Bulletin, No. 108, December, 1915.

After describing the methods of their technique and the results in using poisonous and sticky fly-destroying agencies they come to the following conclusions:

The use of muscicides or fly poisons has many distinct advantages of combating the fly nuisance within the household. A serious drawback has been the extremely poisonous character of these substances and the danger, especially to children, attending their use.

Potassium dichromate and quassia syrup are of little value.

Formaldehyde, 0.5 to 1 per cent, equivalent to 1.25 to 2.5 per cent of 40 per cent solution sold as formalin was found to be

more efficient than the standard arsenite solution.

A 1 per cent aqueous solution of sodium salicylate is almost as efficient as the formaldehyde solution.

At midsummer temperature the efficiency of these solutions is slightly greater than solutions made from commercial poison papers. E. C. B.

EXPERIMENTAL CONVICT ROAD CAMP.

George D. Steele. Eng. Record, Vol. 75, No. 7, p. 250.

The problem of labor camp sanitation has for some time past been of growing importance and sanitarians will therefore welcome the article by Mr. Steele.

Aside from the impressive economic points brought out in handling convict labor, the sanitary condition prevailing at this camp in Seaborn county, Georgia, is equally as impressive and important to those of the medical profession having similar institutions under their care.

The average population of the camp has been forty men convicts since January 10, 1916; three-tenths of one per cent have had to have medical attention. Undoubtedly this is due to the excellent sanitary conditions prevailing.

The keynote of the camp is sanitation and comfort. The buildings were designed with this in view and the discipline was carried out with the same end in mind. The results were successful, both from a health and economic standpoint. E. C. B.

COMMISSION ON MILK STANDARDS.

Third Report of the New York Milk Committee. Public Health Reports, U. S. P. H. S., Feb. 16, 1917, p. 271.

The question of producing and selling milk of high sanitary quality is very fully gone into in this report. The New York Committee has considered and recommended standards, not only for New York City but also for cities of all sizes.

A brief summary of their recommendations follow:

CHEMICAL STANDARDS.

Cow's Milk—8.5 per cent solids not fat and 3.25 per cent milk fat.

Skim Milk—8.75 per cent solids not fat.

Cream—Not less than 18 per cent milk fat.

BACTERIAL STANDARDS.

Raw Milk—Grade A—Milk shall not exceed 10,000 bacteria per c.c. at the time of delivery to the consumer.

Pasteurized Milk—Shall be produced from milk at no time having more than 200,000 bacteria per c.c. and after pasteurization shall not exceed 10,000 bacteria per c.c. at the time of its delivery to the consumer.

Grade B—From milk at no time containing more than 1,000,000 bacteria per c.c. pasteurized so that the bacterial count shall not exceed 50,000 per c.c.

Grade C—Milk with a bacterial count exceeding 1,000,000. To be sold for cooking and manufacturing purposes only.

The committee also recommends standards for the following milk products: Cream, butter, ice cream, condensed milk, skim milk and buttermilk.

They also make recommendations for inspection of dairies and manufacturing plants, for laboratory methods in controlling the licensing of dealers and supervising dairy herds.

The standards as given are a distinct step in advance. It is to be hoped that physicians and health officers will carefully consider these standards when advocating laws and ordinances dealing with the milk problem. E. C. B.

NEW AND NONOFFICIAL REMEDIES.

Mercuric Benzoate. — When mercuric benzoate is dissolved in sodium chloride solution for injection purposes a complex mercuric compound is produced in which the mercury is a part of the acid radical. It is safe to assume that the therapeutic effect of a given weight of mercury as mercury benzoate in a stated volume of sodium

chloride solution will be the same as that of the same weight of mercury in the form of mercuric chloride in the same volume of sodium chloride solution. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

THE STATUS OF ANTIPNEUMOCOCCUS SERUM.—The injection of the proper antipneumococcus serum in pneumonia caused by pneumococcus Type 1 is believed to be beneficial, but the serum treatment of pneumonia is still in the experimental stage. The pneumococci fall into various groups according to their immunologic relations and the first requisite for a rational use of the serum treatment of pneumonia is the determination of the particular type of the pneumococcus concerned in a given case. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

Publisher's Notes

BETZ NEW HOSPITAL CATALOGUE.

The Frank S. Betz Company have recently issued a new hospital catalogue, complete in every detail. This company is one of the staunchest supporters of the state-owned Journals and has adopted a liberal advertising policy toward them. As we have frequently pointed out to our readers, advertisers do not use our columns to rid themselves of a surplus of cash but to replenish their coffers. THE JOURNAL has never solicited and does not wish at this time complimentary advertising. We believe we have something to offer the advertiser, and when we accept an advertising contract satisfy ourselves he has something to offer our readers. Bearing the foregoing in mind, we urge our readers to write for the catalogue from this firm and in purchasing office or hospital equipment to remember those who remember us. Let it be known in doing so that your purchases are a direct response to advertising in your State Journal.

A WIDELY USEFUL SOAP.

Most medical practitioners are doubtless familiar in a general way with the properties and purposes of Germicidal Soap (McClintock's formula)—a product which has been marketed for many years by Parke, Davis & Co., and which appears to acquire a constantly widening sphere of usefulness as time passes.

In obstetrics and gynecology Germicidal Soap is a valuable antiseptic, deodorant and lubricant for the examining finger or instruments.

In surgery it is an admirable general disinfectant. It can be used to prepare antiseptic solutions without the necessity of measuring or weighing and without waste. For sterilizing hands, instruments and site of operation it is unsurpassed. The germicide contained in it is more powerful than mercuric chloride or phenol, and it does not coagulate albumin.

In office practice Germicidal Soap is efficacious in the treatment of parasitic diseases and as a disinfectant for the hands after examinations.

Other ways in which the soap may be advantageously employed are these: to cleanse wounds, ulcers, etc.; to lubricate sounds and specula; to disinfect surface lesions; to control itching in skin affections; to make solutions for the vaginal douche; to destroy the odor of hyperidrosis; to cleanse the hair and scalp and to remove and prevent dandruff; to disinfect vessels, utensils, etc.; to wash and sterilize bed-linen, handkerchiefs and other appurtenances of the sick room.

From the foregoing it will be seen that Germicidal Soap, P. D. & Co., is more than a soap—more than a germicide. It is, in fact, an antiseptic, disinfectant, deodorant, sterilizer, lubricant and detergent—all in one. It has been called "the soap of a hundred uses." The designation is not inapt.

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, April, 1917 Number 10

ORIGINAL ARTICLES

FOCAL INFECTION.*

H. M. Ginsberg, M. D.,
Pensacola, Fla.

As this is a joint meeting of dentists and physicians, I have purposely limited this paper to focal infections of mouth and throat. During the past few years new interest has been aroused in the subject of focal infection, as an etiological factor in local and general systemic diseases. More interest in the subject has been brought about by a better knowledge of bacteriology and by cooperative laboratory and clinical research.

The mouth is the home of a definite bacterial flora, and is rich in organisms. There are two groups: First, a group of microorganisms, which have never been cultivated. They are abundant on decayed teeth. They were particularly studied by Miller, who was an American dentist, later became a Professor in the University of Berlin. They consist mainly of rods and thread-like forms and the cork-screw shaped ones, the spirochæte. Then there is the disease-producing group, the pneumococcus and streptococcus variety. Professor Wm. H. Welch claims that their relationship is still open to question and thinks it is best to consider that there is a short chain coccus encapsulated, which may, or may not in all instances be the true pneumococcus, which is present in large numbers in the mouth, and a similar chain coccus not encapsulated, which is present in the mouth similar to a chained coccus found in the intestines.

Rosenow says: "The apparent position of the various members of the streptococcus group may be illustrated by the position of the fingers, in which the hemolytic streptococcus occupies the position of the little finger; the pneumococcus, the place of the index finger (opposite extreme); the streptococcus viridans (non-hemolyzing streptococci), the middle finger; the streptococci from rheumatism, the ring-finger, and streptococcus mucosus, having some of the properties of both pneumococci and streptococci, the thumb."

According to Rosenow, streptococci vary in virulence in terms of their exposure to oxygen and one strain may be converted to another of higher or lower virulence. Certain strains possess an affinity for certain tissues. Pus draining from pyorrhœal pockets, sinuses, etc., is far less virulent than pus under retention due not only to the fact that there is less absorption, but the microorganisms are more or less exposed to oxygen.

The tonsils are frequently infected through contaminated air, infected food, especially milk, and by direct contact with infected individuals. Many children have large tonsils and overgrowth of other lymphoid structures, in the pharynx, which make a good soil for bacterial growth, and in adults faucial tonsils may look innocent because of a smooth covering of mucous membrane which seals over infected crypts or actual abscesses. In the past two years I have had the opportunity of seeing a large number of tonsils removed, and have often been surprised to see the amount of cheesy material exude out of the crypts, when they were being enucleated; so, too, the stumps of tonsils, the remains of tonsillotomy, may contain infected crypts, sealed by the operative scar. From these infected tonsils and adenoids, you can obtain cultures of strepto-

*Read before the Escambia County Medical Society, at Pensacola, March 27, 1917.

coccus mucosus, streptococcus viridans, streptococcus hemolysans, pneumococci and sometimes pseudo-diphtheria and diphtheria bacilli. Tonsil tissue may also be a focus of tuberculosis. S. J. Crowe reports 46 cases of tubercular tonsils out of 1,000 cases. The diagnosis was not made, nor was tuberculosis suspected, until after the tonsils were examined microscopically.

You have the same foci of infection in pyorrhœa dentalis and alveolar abscesses. It is a disease, which fundamentally involves the periosteum of the root and neck of the tooth (peridental membrane). The infection first attacks the edges of the gum, which may be macerated by decaying food particles between the teeth, or by tooth picks, etc. Ill health and poor general nutrition make the gum less resistant. The endameba buccalis and the various pyogenic bacteria, especially the streptococcus viridans and streptococcus hemolyticus gain admission into the edges of the gums, cause retraction of soft tissues and the exposed peridental membrane of the neck and root of the tooth become involved, which finally results in an acute or chronic alveolar abscess. Sometimes the abscess forms by not completely filling the pulp canal, or by using too strong antiseptics such as formaldehyde in the canal.

In 1900 Payne and Poynton of England first published a thorough study on eight cases of acute rheumatism from which they isolated their diplococcus rheumaticus. In 1909 Davis of Chicago examined the diseased tonsils removed from 45 patients and in nearly every instance found streptococci in the crystal debris. In 1908 Rosenheim reports a number of cases of rheumatic fever relieved by tonsillectomy, and in 1912 I had the opportunity of seeing several cases of trigonitis in young girls, in Dr. Guy Hunner's clinic in Baltimore, and he stated that regardless of the amount of local treatment in the bladder, the inflammation would not clear up until the tonsils had been removed. But it was not until the work of Billings and especially Rosenow were published, that the medical profession began to realize the close relationship between a focus of infection in some remote part of the body to some of the general systemic diseases. They began their animal experimentation about thirteen years ago to prove relationship between foci and infections.

Deland, in April, 1916, in the *New York Medical Journal*, reported a case of furunculosis and carbuncles resulting from pyorrhœa, and at present I have a youngster of ten under my care, who has a typical wrist drop of left hand, caused by a neuritis of the musculo-spiral nerve. He was examined by Dr. M. A. Lischkoff and he found chronic inflamed tonsils, which are undoubtedly the foci of his infection.

Instances of sudden onset of pneumonia, rheumatic fever, tonsillitis, endocarditis, nephritis and other infectious processes, occur after exposure to extreme cold. Billings claims that the latent pathogenic bacteria usually present in these sealed up pockets may acquire, coincidentally with the exposure, specific pathogenicity; and are able to invade the host because of the lowered resistance and because of added virulence. Besides producing rheumatic fever, endocarditis, glomerulonephritis, Rosenow has proven that cholecystitis, appendicitis and gastric and duodenal ulcers are very often a hemotogeneous infection, having their origin in the mouth and throat; and by injecting microorganisms obtained from the infected tonsils of patients with herpes zoster, he was able to produce the disease in animals and recover the streptococci from the posterior root ganglia of the inoculated animals.

Now, since we know absolutely that focal infections produce these diseases, it is our duty not only to remove the cause but prevent them, if possible. If the patient has Rigg's disease, he should be referred to the dentist. If alveolar abscess is suspected the teeth should be radiographed, as sometimes it is impossible to make the diagnosis otherwise, and if abscess is found the patient should be sent to the dentist for treatment.

or if the focus of infection is in the tonsils, appendix, gall bladder or Fallopian tubes, they should be removed; and if in an accessory sinuses, or in the prostate, they should be properly treated.

A SURGICAL CONCEPTION OF PYORRHŒA.*

CLARENCE HUTCHINSON, M. D.,

Pensacola, Fla.

Evidently our present-day conception of pyorrhœa is erroneous, or our methods of dealing with this situation are hopelessly inefficient. Every one of you has been face to face with the situation, and not one of you is entirely satisfied with the results obtained. Either you have had some severe disappointments and dismal failures in the treatment of pyorrhœa, or you have done very little work in this line.

The brilliant work of Bass and Johns, together with the contributions of numerous other investigators, held out to us perhaps the clearest understanding of the condition, and the advent of emetine into the field resulted in a feeling of security in treatment that has not stood the test of time.

Undoubtedly the amœba buccalis is the primary, causative factor in the production of pyorrhœa. Undoubtedly the proper use of emetine or other suitable preparation will kill the amœba buccalis. But the end of the amœba buccalis does not necessarily spell the end of pyorrhœa.

Then we must conclude that there are other agencies or organisms that play an important role in the production of this condition. The commonest form of pyorrhœa alveolaris is a mixed infection.

There are numerous instances in the human being where we have a definite pathogenic organism as a causative agent in the production of a specific condition, and where the most prominent or presenting symptoms are the result of organisms other than the producing agent, and often quite foreign to the locality where the infection may exist.

In tuberculosis of the lungs, for instance, we know that that the B. tuberculosis is the primary causative factor, yet the temperature, night sweats and other manifestations of sepsis are not due to the tubercle bacilli but to the mixed infection that is coincidental.

In typhoid fever we may have continued and excessive temperature due to the secondary bacterial invasion of the intestinal tract in the form of a mixed infection.

In empyema, as a sequel to pneumonia, it is not uncommon to find that the colon bacillus is the predominating organism in the infection.

So I believe it is in pyorrhœa, at the stage in which the average case presents itself for treatment, that the amœba buccalis, which we may admit to have been the primary causative factor, is no longer the predominant invader, but has been superseded by a host of extraneous organisms, which have come to the front rank in this pyogenic process.

It is my conception that pyorrhœa has its beginning in the form of a wound. That the tissue has been damaged by the separation of the gums from the alveolar processes. The irritating presence of tartar on the teeth; indiscriminate picking or brushing of the teeth, or other forms of traumatism, open up the avenue of attack for the invading hosts of bacteria. It is indeed a rare instance where bacteria invade perfectly sound tissue. I say then that pyorrhœa is primarily a wound, and when we have the first opportunity of looking into that wound it is generally in the state of mixed infection. The amœba buccalis is undoubtedly present in nearly all these cases, but it has now become associated with, or has been succeeded by a conglomeration of bacteria, which are capable of producing or prolonging the symptoms commonly ascribed to pyorrhœa, long after the amœba buccalis is dead and gone. Microscopic examination and culture will possibly reveal staphylo and

*Read before the Escambia County Medical Society, at Pensacola, March 27, 1917.

streptococci in their various strains, bacillus coli, pneumococci, and perhaps the bacillus ærogenes.

It is not hard to understand in the present light of bacteriology why pyorrhœa was in times gone by accredited to patients all run down and in a debilitated condition. Of course such patients had pyorrhœa because of their poor tissue resistance, spongy gums, etc., and this same hypothesis of susceptibility of such patients to pyorrhœa holds good as concerns the course of any other infection in these patients.

I believe that it is safe to assume that the predominating bacteria in pyorrhœa are anerobic in type; that they retain their virility by being hidden in crevices and pockets away from access and away from air; that the mouth with its heat and moisture makes a perfect incubator for their reproduction, and that there is a constant reinfection from the ingestion of food. It is perhaps true that the carbohydrate forms of food which so often remain in the mouth, as in the case of cracker flakes or bread crumbs, furnish ideal culture media for the propagation of these organisms, especially if they be of the ærogenes type.

Then what must we do to be saved? We cannot discount the many excellent results obtained through the administration of emetine, yet we cannot accept it as the panacea. Other forms of ipecac in lotions, etc., have shown their worth and must be encouraged.

The brilliant work of Carrell and the success of Dakin's solution foretells a revolution in the surgical management of infected wounds. Is not pyorrhœa an infected wound, and does not the handling of other wounds so well by this method bring up food for thought in the management of pyorrhœa?

Will there be developed an ideal solution of sufficient bactericidal strength, yet applicable for use in the mouth? Does not the use of a chemical substance containing nascent chlorine suggest itself here?

Carrell has succeeded in the development of his treatment of infected wounds only because of his untiring search of the bacterial fields and the system of follow-up observations to definitely ascertain the effects. You, too, will have to follow up the bacteriology of pyorrhœa to succeed in its management.

Gentlemen, I predict that the final answer of the problem of pyorrhœa will be found in the microscope.

THE MANAGEMENT OF CONFUSIONAL STATES WITH SPECIAL REFERENCE TO PATHOGENESIS.*

Tom A. Williams, M. B., C. M., Edin.,

Washington, D. C.

Confusion is a hall-mark of the effects of toxin upon the cerebrum. When very slight, special tests are required to elicit it. Interference with neuronal conductivity is the chief pathogenetic factor. The topical incidence of this is one of the determinants of the form taken by the psychosis, whether hallucinatory, disorientative, depressive, delusional or what not. Another factor is the state of the body secretions as affected by the toxins. A third factor is the patient's psychological status as determined by the capacity and the opportunity for experience.

Toxin may be exogenous, whether from living parasites or not, or endogenous, as from vascular stasis, malnutrition, exhaustion, endocrin disorders, or it may be dynamic, as when psychogenetic.

Bodily signs are usually present, such as reflex disturbances, tremor, circulatory disturbances and vegetative disorders. Headache and insomnia also almost always occur. Of the latter oneirical delirium is usually a feature; it is a kind of somnambulism with partial amnesia, often of mystical character. The perceptions are feeble, and motor reactivities usually dull. That structural changes may occur when the cause of con-

*Condensed from a paper read before the American Medical Psychology Association, at New Orleans, April, 1916.

fusion is long maintained is manifest upon histological examination of the brain. But that these often permit of repair seems to be shown by apparently complete recoveries, even after years.

The management of the patient consists of, firstly, the avoidance of adding the toxicosis of the imperfectly elaborated protein which is prone to occur even with a moderate diet, because of cloudy swelling of hepatic cells induced by the causative toxin or by a similarly induced interference with renal elimination, causing retention of nitrogenous substances. Lack of proper adjustment of the diet, especially in the matter of carbohydrates, leads to an acidosis, which further aggravates the toxic state by interfering with proteoclysis as well as with proper catabolism. The remedy for this is of course adequate ingestion of carbohydrate substance. The giving of alkalies has only a neutralizing effect, although it is necessary in some cases. But the assistance to metabolism of the alkaline salts, especially in the combinations naturally occurring in most fruits and many vegetables, is invaluable; so that these should be copiously added to the diet. Of course, sufficient water should be given; but the *naif* idea that abundance of water will either neutralize or favor excretion of toxins is untenable.

Violence, distress, or agitation should never be met by narcotics, which merely increase cerebral toxicity. These symptoms are quickly mitigated by hydrotherapy until the full effect of metabolic improvement from proper diet can show itself upon them. Some of the cases (from *International Clinics*) illustrate both the symptomatology and management of confusional states of different etiology.

The first of these illustrates a post-infectious toxic state in an individual predisposed by sclerotic blood vessels, feeble heart and a lack of constitutional robustness, as well as previous over-indulgence in alcohol. The toxic confusion was maintained and aggravated by the ingestion of pharmaceuticals and an excess of protein. Recovery was accomplished by means of the afore-mentioned principles after several consultants had failed to benefit the patient.

Post-Influenzal Confusion with Exhaustion.—Case I. In May, 1915, a judge, aged sixty-four, after a severe attack of influenza, remained very weak, confused in mind, and began to develop hallucinations and delusions of a vague character. Several consultants were seen without result, and he became weaker and less clear mentally. The patient was in a typical condition of mental confusion. Deep reflexes were very faint, abdominal reflexes were absent, there was plantar flexion. There was no paralysis and no anæsthesia, so far as could be ascertained. The optic disk was not œdematous and showed no arteriosclerosis, but the superficial vessels had thickened coats, though the heart was small, the apex reaching only to the lower border of the fourth rib, one inch inside the nipple line.

Systolic blood-pressure was 102, the diastolic 60. The kidney function had been ascertained by Dr. A. B. Hooe to be normal, phthalein appeared in ten minutes, to the amount of 30 per cent, and 34 per cent in the first and second hour respectively. But there was a large quantity of indican and a slight trace of albumin.

The patient was taking the following diet and medication: 2 A. M., beef juice; 3:20, ammonia; 4, red solution potassium iodide; 5:30, grapefruit juice; 6:15, three tablets, egg, whiskey, milk; 7:30, ten drops B. P., adrenalin solution; 8, ten drops solution iodide potassium; 10:20, soft toast, coffee; 11:15, three tablets caffein, strychnin, spartein; 12, ten drops B. P.; 12:30, ten drops solution; 1:30, beef tea; 2:30, ammonia; 3:30, three tablets; 4, custard, cream; 4:30, ten drops B. P.; 4:45, ammonia; 5, ten drops solution; 7, egg, whiskey, milk.

I considered this a case of acute exhaustion psychosis, partly toxic in character. The treatment prescribed was embodied in the following report to his physician:

As the patient is suffering from exhaustion, stimulants are contraindicated, as the tired organ is incapable of further response to them; therefore, I think it wise to omit caffein, the secondary effects of which increase the exhaustion.

Strychnin should not be further given either, for it merely increases the discharge that is the exhaustion of energy of medullary neurones.

Spartein is a nerve-muscle poison, the effect of which in improving cardiac activity cannot be maintained for long without greater nutritional capacity than the patient possesses.

I see no advantage in the iodide of potassium. Furthermore, the basic element of this is a strong cardiac depressant. Nor should I give the bromides during the effort to build up the patient, as they diminish metabolic processes and diminish resistance. Ammonia should be kept for emergencies only, as its effect is evanescent.

The regime I prescribed is as follows: 6 A. M., five grains of sodium bicarbonate in four ounces of hot water; 6:15, one orange; 6:30, breakfast cereal and milk, one egg, crisp bacon; 8:30, massage, consisting of slow, deep pressure without friction: the purpose of this is to increase the *vis a tergo* of the circulation and thus aid the heart by saving its *vis a fronte*. Sleep if possible.

On waking, about 9:30, five grains sodium bicarbonate in four ounces of water; 10 to 10:30, luncheon, one banana, cereal, and milk; 12 to 12:30, massage, sleep; 2 to 2:30, dinner, meat and potatoes, green vegetables; 4:30, massage, followed by five grains sodium bicarbonate in four ounces water; 6:30, supper, unpolished rice and milk, one banana. Between that and midnight, massage again when the patient is awake. For midnight lunch, graham crackers and milk are desirable. The quantity of milk at one meal should not exceed five ounces. After meals the patient should be given one capsule of "phytin," an organic phosphorus preparation of the Society of Chemical Industry of Basle.

Beef tea and gelatin should be omitted as containing too much excrementitious materials, which are cardiac poisons. Coffee and tea should be omitted also. A small piece of bread, with or without butter, may be taken with each meal if desired. Water should be the drink, and should be given about one hour before each meal, but should not be restricted to that time if the patient desires it at any other.

The adrenal principle should be continued, and I think it is better given as the dried gland, say three tablets a day to start with. I think that its effect might be improved by being taken along with one tabloid of "hormotone."

If this diet is found to be too heavy, diminish the quantities at the commencement. If the patient suffers from the heat, cool sponging should be beneficial; and in any case its effect upon the innervation of the vascular system is usually most beneficial; the water should be used lukewarm. The best cereals to give are puffed grains, with an occasional change to oatmeal and the brown prepared wheats, such as Ralston's. If the patient should desire any one article of food, let him have it occasionally.

When these measures were carried out, improvement was rapid; so that in four weeks the patient was able to be about, and the following term took his place on the bench, and remains well at this time.

Case II. A lady seen twice with Dr. Hardin illustrates the fact that old age, weak heart, and debility need not denote unfavorable outcome.

The exogenous poisons, such as alcohol, may produce a confusional condition which resembles paresis. For example a gentleman was sent by Dr. Aymer, of Charleston, in 1909, because of hallucinations, delusions and violence, the result of eight days of alcoholism. The distinction was very simply made by examining the spinal fluid, so that the patient was sent home well in two weeks, even although he had shown slurring and reduplicated speech, and great

impairment of calculating power. Seven years later the patient remained well.

The distinction was similarly made in a case due to morphine to which I was called in consequence of an alienist's diagnosis of paresis. It is true that an occasional case of paresis very rarely has as low a lymphocytosis; but never during an acute attack of the period simulated by this patient. His morphinism was perhaps due to marital infelicity, for he is now remarried and five years later remains well.

The endogenous sources of confusional states are most clearly seen in hypopituitarism, as the following case shows:

Narcolepsy from Hypopituitarism.—Case III. A clear-cut example of the confusional state of pituitary insufficiency is that of the girl of twenty-five referred by Dr. John Dunlop, in 1911, to whom she had been sent on account of the pains in the back and dragging feeling and tenderness in the legs, in the belief that she had sciatica. There were absent-mindedness, severe amnesia, dull, heavy headache, which was sometimes bursting and was located deep and low in the middle of the head. Torpor would occur often suddenly, even causing her to fall. The mental confusion was most marked in these attacks, in which she felt as if intoxicated, singing and speaking absurdities. Although there was no vertigo, lines would blur when reading.

General and neurological examination was negative, except for increased reflexes, hypertrophy and tenderness of the subcutaneous fat, the weight having increased from 131 to 184 pounds in three months. The limbs were irregularly asymmetrical: for instance, the left knee was 16 inches, and the right 17⅛; the thighs, respectively, were 38½ and 38¼, and ankles 9¾ and 9 inches in circumference. The femoral veins were engorged, the conjunctiva congested. A neoplasm around the pituitary was diagnosed on account of the situation of the headache, torpor, and adiposis. Confirmation was obtained by the finding of visual field contractions, and deepening of the sella turcica, as shown by the X-ray.

The treatment of the case consisted of the exposing of the pituitary region to radiotherapy, applied from four different temporal points, about ten minutes every week.

Six months later, although the weight had not diminished, the headaches had, the visual field had enlarged, the reflexes diminished, and the narcolepsy ceased. We expected to give thyroid gland in order to diminish weight, but the patient passed from observation; so we do not know if her relief continues and are unable to supplement the preliminary report of the case made in January, 1912, in *The Journal of the American Medical Association.*

Psychic disturbances such as a powerful emotion may cause temporary confusion, but it is doubtful if this can be prolonged in the absence of secondary somatic factors, such as impaired metabolism, circulation, and internal secretions.

The case which follows, however, was purely psychic when dealt with by me:

Post-Orirical Fixed Ideas Removed by Reeducative Psychotherapy. — Case IV. A clerk, aged twenty-one, was referred by Dr. J. J. Richardson for advice and treatment on account of a state of mental confusion, impossibility of concentration on work, extreme depression of mind, and nocturnal hallucinations occurring after tonsillectomy.

After he had given his name and address he began by saying: "Do you believe in God and Christ?" and when I asked him what was the matter, he said: "It is dreadful, awful, where am I and what is right? It seems desecration to speak of it; if you can't help me I do not want to speak of it. Everything seems blended into one thought; all else is confusion." I then asked him how the trouble had begun, and after much questioning he succeeded, with difficulty in doing so, revealing to me what had transpired.

During ether narcosis he had felt that the world had reverted to nothingness; that in

consequence he could not reach God and Christ, and longed for death, so that he could escape this terrible nothingness. Everything seemed blurred in that one thought, which kept recurring in spite of his prayers to God. "It seemed a curse to be brought into the world to suffer that awful mental pain; it seemed like after-death lasting a million years."

For the next week or so he had gone about suffering terribly, seeming as though he would go insane if he could not return to God. A lecture on evolution seemed a desecration. He would wake at night, having dreamed the experience again, trembling with fear of his future.

Examination showed no physical disturbances.

Therapeutics.—He was treated by a full, though concise explanation of how thought is disordered by the perversion of brain chemistry during narcosis; how the feeling-tone may also be thus depressed, and how the distortion of impressions during a sad feeling-tone phase resulted in his hallucinatory concept of chaotic annihilation. It was explained that this concept was based upon morbid percepts caused by the ether, and therefore should not prevail over rational explanations of common experience and good sense. Many illustrations of toxic and mystic thought were related, and comparison drawn with his own case. He was asked to write out the inferences he drew from the facts presented him and he was referred to a clergyman for an explanation of his theological doubts. This, however, he did not receive, and I had to resume treatment without this assistance.

Anxiety Causing Exhaustion Which Produced Mental Confusion.—Case V. A woman of thirty-five was referred by Dr. Ada Thomas, because the patient became disturbed about some botanical investigation she had conducted successfully which she could not seem to finally formulate, although she had made a preliminary report to the satisfaction of her superiors. She would keep on starting experiments, but they did not seem to go right. She felt dazed and as if everything was out of joint. The work seemed easy, and yet she could not accomplish it. As there was neither insomnia nor loss of weight, she felt that her trouble was psychological. But her reflexes were exaggerated, her hand trembled, her eyeballs were prominent, with congested lids, and the breath was very foul. However, she persisted that it was temperamental, as she had had an attack as a teacher some years before, and thinks that she was prone to it as a child. She was hyperconscientious and had too much ambition for her strength.

Though her blood-pressure was only 128, her diet was lacking in succulence, and she had been taking extra milk, but without causing constipation. Thinking that improved metabolism might help her, I prescribed a week's vacation, with golf, a more succulent diet, and a mixture of hormones. In a few days the blood-pressure fell to 105, diastolic 55, and she "felt like doing nothing at all and without mind"; so that the golf was stopped, and she was put to bed, whereupon the blood-pressure after five days slowly rose to normal, the reflexes diminished, the tissues were firmer, but the pulse-rate mounted over 100, going to 120 sometimes, and slight exophthalmos appeared, with the sign of Moebius. There were no sweats, the breath was less foul, she felt clear mentally. Mixed hormones were stopped. She was then given secretogen and advised to return to work the next week, which she has accomplished satisfactorily since.

Chronic Confusion. — That many cases of *chronic* mental alienation supposed to be idiopathic are in reality toxicogenetic is becoming clear. Most significant is the autopsy material of the Massachusetts State hospital, in which every case of 100, carefully studied, showed kidney lesions.

When confusion becomes chronic, internment is usually imposed, often with a diagnosis of dementia præcox, which is regarded by Régis as merely the chronic form of the mental confusion of Chaslin. From Krae-

pelin's rubric, Régis excludes cases of constitutional origin, usually the hebephrenics, which undergo rapid involution at puberty. The others, he maintains, begin with an acute attack of mental confusion due to toxin, usually show catatonia, and often end in dementia. Otherwise, there is a gradual failure with delusional formation inversely proportional to the rapidity of the dementia, and finally, a permanent defect.

The recovery of some of these cases, even after long periods, is in harmony with the conception of Régis that a factor outside the cerebrum itself is at work. This is in no way antagonistic to the findings of lesions in the brain itself by Southard, for we know that toxin can produce neuronal damage. A most remarkable recovery of a confusional state of seventeen years' duration was recently reported by a Pennsylvania psychiatrist.

I myself have reported one of recurrent maniacal confusion of toxic causation, which was completely removed when we prevented the auto-toxæmia of excessive eating, which at each alternate menstrual period produced an acute confusional attack, with rise of temperature, leucocytosis as high as 30,000, lasting for ten days or so, and never leaving the patient quite normal in the intervals.*

It is less well known, however, that an acute mental confusion sometimes occurs in consequence of secondary syphilis. In this there is always found an intense congestion of the meninges, and there is consequently an abundance of lymphocytes in the cerebrospinal fluid, which is not always the case in chronic endarteritis; although even here some meningitis is the rule and the fluid shows an increase of cells.

In this place I do not consider in detail the mild, recurrent chronic confusion which is often an accompaniment of, and sometimes substitute of, recurrent headache, whether typically migrainous or not. That it is also a toxic phenomenon seems clear from a study of a considerable number of cases where (A. M. A., 1916) successful management is based upon a view of their pathogenesis more precise than those hitherto set down without adequate thought by most authorities.

Marked Confusion Due to Metabolic Migraine Resembling Petit Mal.—Case VI.—The following is an example: A bacteriologist, aged thirty, was referred to the writer in the spring of 1912, by Dr. Paul Johnson, because of attacks he called "bilious" (but not preceded or accompanied by constipation), which produced headache, preceded by numbness and pricking in the fingers, followed by dizziness, mental confusion, and foolish talk of paraphasic type, without loss of consciousness. These attacks had occurred every two or three months since the age of twenty-two; they were of very short duration; there were no scotomata, but they were formerly accompanied by vomiting. The headache was of the splitting kind, lasted all day, and was followed by dullness and slowness of thought the following day. The capacity to concentrate his thoughts was increasingly impaired even between the attacks. He was at times irritable. He had no bad habits, and, apart from these attacks, he was well and strong. He received a blow on the left side of the head as a boy, and there was still a dent in the left parietal region, upon which side the headache more often occurred. He had a large appetite, which he said he controlled, but he ate meat thrice a day, although, he said, sparingly. The blood-pressure was not raised, and reflexes and sensibility were normal.

Treatment and Progress.—He was given the low protein "standard" diet. He wrote the writer the following winter: "Since I have reduced the amount of protein in my diet and increased the quantity of vegetables, I have had no recurrence of those spells." Dr. Johnson informed the writer that he remained well to date, over three years later.

Therapeutic Summary. — The treatment of confusional states should be easily gathered from the foregoing. It should not be

*New York Med. Jour., 1911; Diet in Nervous Disorders.

a merely empirical dietary and effort at elimination, but should ever be directed towards combating the etiological factor of the confusion. Thus, when the kidney is at fault, nitrogenous food must be diminished; so, also, when the liver is disturbed. When exhaustion has occurred, nutrition must be ample. When the internal secretions are disordered, it is to these that attention must be directed. When psychological factors are at work, they must be met with psychotherapy. Physiological irritability must be counteracted not by depressants or narcotics nor by forcible restraint, but by hydrotherapy, fresh air, and non-stimulating food. Even in patients violently disturbed the death-rate where narcotics are used is much greater than when hydrotherapy is employed alone.

Gregg says, in recounting their experience at the Boston Psychopathic Hospital (Massachusetts State Reports):

"The result of the eliminative treatment of the deliria with relative freedom and hydrotherapy, and a minimum amount of medication, far excels in effectiveness the usual treatment by restraint and depressant drugs in cases of the symptomatic psychoses, including alcoholism.

"Every general hospital should be provided with the facilities for treating properly cases of delirium. Such facilities should include isolation wards where quiet is not essential, and continuous bath apparatus for hydrotherapy."

Very striking is the difference in the death-rate among fifty cases of delirium tremens in five general hospitals, comprising ten cases from different hospitals in New York, Philadelphia, Baltimore and Boston. These were treated by depressants and showed a mortality of 26 per cent, while ten cases from the Boston Psychopathic Hospital were without mortality, in spite of the fact that they were older and more complicated.

In the acute and grave cases measures may be required more drastic than those employed in the cases I have related. Such are: Rectal irrigations, saline injections, intravenously or per rectum; but these with caution, lest chlorine retention on account of renal hypofunction, by causing œdema, aggravate cerebral incompetence; hyperhydrosis by electric-light baths or hot-packs; or even bleeding or rachiocentesis.

1705 North Street.

CARDIO-PYLORIC ANASTOMOSIS.

MARVIN H. SMITH, M. D.,

Jacksonville, Fla.

Anastomosis performed by uniting the anterior surface of the pyloric portion of the stomach to the anterior surface of the cardiac portion of the stomach.

Mrs. E. D., a nurse, 38, married, father and mother both died of stomach trouble, suffered with indigestion for twenty-five years.

November 1, 1916.

Weight, 84 pounds, lost 20 pounds during last year.

Severe pain in stomach and back two hours after eating.

For past year has vomited daily for relief of pain.

Appetite always good.

Constant belching of gas.

Digestive enzymes normal.

No lactic acid or Boas-Oppler bacilli.

Has been an invalid for the past three months.

Epigastric tumor easily palpable.

Extreme sensitiveness in epigastrium.

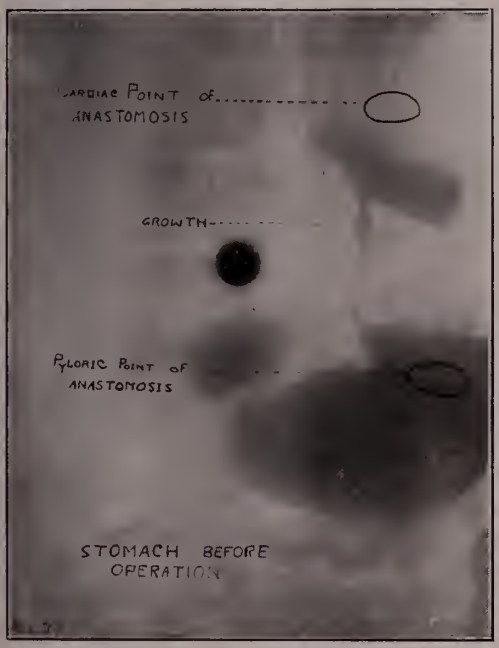
Trace of occult blood in feces.

Wassermann reaction negative.

After having completed my investigation, I explained the findings to the patient's husband as clearly as I could, stating that I felt that I could offer nothing in the way of medical treatment and as it seemed that I was undoubtedly dealing with carcinoma, I, of course, promised nothing from surgical intervention.

With great misgivings, I finally consented to make an exploratory incision, the patient insisting upon it. Having done so, I raised

the stomach up into full view and exposed a mass about four or five centimeters in diameter. I found that there was only a very small tortuous channel through that portion of the stomach, as shown by the radiographs. The tumor was a hard granular looking annular inflammatory mass, resembling in general appearance a tubercular annular ulcer as seen in the bowel. The glands along the lesser curvature were enlarged and firm to touch, the liver, hower, showed no suggestion of metastasia and there were no adhesions.



After making the incision and seeing the situation, I felt that I must do my best to provide a route by which food could pass this constriction. I soon discovered that it was impracticable to attempt to form an anastomosis by raising up the jejunum and uniting it to the portion of the stomach above the constriction (gastroenterostomy). It also appeared that an attempt to do a resection of the tumor would naturally hasten metastasis with the usual result, the danger, too, from shock in the patient's emaciated condition would have been grave. I did find that I could raise up the pyloric portion of the stomach high enough to form an anastomosis, in front of the tumor, with the cardiac portion, and by so doing, exclude to some extent the growth and at the same time supply an exit for stomach contents. This I did.

At the end of two weeks I dismissed the patient from the hospital, she having made an uneventful recovery. At the time of dismissal she was taking considerable solid food without difficulty. The vomiting and pain had practically all ceased. Four months elapsed and the patient again returned to my office. She stated

That the pains in the stomach and back had all ceased.

That she had no belching now.

That most of the extreme sensitiveness was gone.

That she was eating just as any one else.

That she was well and had returned to nursing.

The scales showed a gain of about ten pounds.

With a history of long-standing indigestion having such a climax as this, one would most naturally suspect carcinoma. Involve-

ment of the messenteric glands would support this expectation and the presence of constant epigastric pain would naturally strengthen our belief that cancer was present.

Had the tumor been a tubercular condition it would seem that there would have been a pulmonary infection. There was no cough and apparently no lung involvement.

Had the tumor been a syphilitic gumma, we would have hardly anticipated the remarkable improvement that the patient has shown without the administration of antiluetic treatment. As shown in the original diagnostic investigation, however, the Wassermann was negative.

It is obvious that often when constrictions about the stomach are overcome and the patient is enabled to take a bountiful supply of nourishment, that even with cancer present, weight will for a short while occasionally be gained.

I have presented this case because many points indeed connected with it seem to be contradictory and, in my mind, the exact diagnosis as to the true pathology remains shrouded in mystery. The treatment was improvised to meet an emergency. The results to date have been most gratifying and the present outlook most happy.

This lesson to me emphasizes anew the great necessity of careful and scientific investigation on all chronic indigestion. I further believe that we should not be too quick to close an abdomen without resorting to every expedient possible that offers a ray of hope to the patient that presents an abdominal aspect which appears hopeless. By doing this we stand a good chance of restoring patients, otherwise doomed, to health and strength. None of us would be inclined to give up all hope of life simply because the operating surgeon viewed a certain growth macroscopically and concluded that every effort would be in vain.

I look forward to the day when we shall be able to make serum or blood tests that will decide definitely and certainly for us whether cancer is present.

OBSTETRICS OUTSIDE THE MATERNITY HOSPITAL, AND A SQUARE DEAL TO THE MOTHER AND HER OFFSPRING, OR OBSTETRICS IN THE RURAL HOME.

P. L. Goss, M. D.,

Mulberry, Fla.

Six years ago I mailed to some relatives and friends the announcement of the arrival of a young American at my home. In reply to one mailed to a sister, I received the following: "As you are a physician, I will not attempt to offer you advise relative to the management of your newcomer, but permit me to relate briefly some personal experiences with our three boys. When the first came, I listened to the counsel of every grandmother that called to see us, giving various teas and concoctions at their suggestion to seemingly a robust, healthy boy, who soon began showing symptoms of colic which lasted for six months, more or less, in spite of daily administration of grandmother remedies. When our next boy came, I decided to accept advice from only a few of the more intelligent grandmothers; our second was troubled with colic for only three months. When our third son arrived, mother was fortunately paying us a visit, and insisted that we consult only the attending physician relative to the management of our boy, and listen to the advice of no grandmother, as teas of all kinds were harmful; so we resolved to take her advice, even though she were a grandmother, and carry out the instructions of our family physician. To our pleasant surprise, our youngest passed through infancy without the slightest illness, and is developing more rapidly than either of his older brothers."

A few days ago, while in a rural home, in consultation with a brother physician, I encountered a grandfather, 63 years of age, who boasted of being the father of sixteen children. In conversation, he stated that with his first set of children he tried giving them paregoric, whiskey toddy, bateman

drops, sweetened coffee, and various other concoctions. The result was, they were every one sickly, having colic, etc., part of them dying in infancy. With his last set of five his present wife had blessed him with, only breast milk and a little warm water was allowed them in early infancy; he awakening to the fact that they were little animals and should be let alone, and not have their growth and development generally retarded by forcing down their tender little throats strong irritating teas, opiates, and other concoctions. This old father, after seeing the greater number of his offspring suffer as a result of his lack of knowledge, finally received a valuable lesson in practicality, giving his last set of five children the benefit of this delayed acquirement of common sense, enabling them to grow up possessed of bodies more resistant to the ravages of disease.

A relative, who had been in my home at the time my two older children came, had an occasion to read extensively on subjects relative to the care of the expectant mother and obstetrical nursing, including the care of the newborn. In the early part of 1915, having in the meantime removed to the city of Chicago, she was looking forward to the arrival of a newcomer. In letters, she stated, she was debating trying out the twilight method, having consulted with one who professed proficiency in the much discussed so-called painless childbirth method. The brother evidently proved himself to be one of the too numerous four-flushers found in the profession today. As I learned later, the expectant mother in question had engaged the services of one who made a specialty of obstetrics, making all his deliveries in a maternity hospital, using chloroform for obstetrical anæsthesia.

In due time, the little fellow arrived, having the distinction of being the heavy-weight of an entire ward of thirty-seven youngsters.

In the first letter written, after entering the maternity hospital, this young mother stated that after her baby was a few days old, it became necessary to consult this distinguished obstetrician relative to some minor detail in the management of her infant, and to her astonishment, she learned that he was a specialist in obstetrics only, and professed to know nothing about the treatment or care of infants; she having to call in a specialist on pediatrics. A few weeks later, her husband's business necessitated their removal to a city in Nebraska, thence to Atlanta, Ga., later to Ohio, stating that in several instances she had occasion to consult men that made a specialty of pediatrics and what impressed her most, was the varied and conflicting advice secured of these men.

Now, gentlemen, as all young Americans do not arrive by way of the Chicago Hospital route, and as proof I believe you will bear me out in the statement that quite a few first put in their appearance on this terrestrial ball within the borders of Polk, Lee and DeSoto counties, and as we have heard of pseudo-physicians, residing not a thousand miles from our meeting place today, making the statement in the hearing of grandmothers (same being equivalent to publication) to the effect that when it came to treating infants, they had rather risk the average grandmother than themselves, and in view of the fact, we feel, that a great deal of damage to posterity can be averted by giving correct advice to our expectant mothers and the proper management of labor, and common-sense care of the newborn American citizens of the future, I have decided to invite your attention by the reading of a paper on the following:

In obstetrical work it was our privilege to participate in while serving an interns. We usually had besides the physician engaged for purpose of making the delivery, a couple of interns and three nurses in attendance at each delivery. No attempt will be made in this paper to describe the technique in such hospital delivery, where the expectant mother is given a germicidal bath, furnished with sterile gown, and placed on a bed supplied with sterile sheets, the various attendants required to don sterile gowns,

etc. But given a case in a rural home, the physician is rarely engaged earlier than a few weeks prior to delivery; often after some "grannie," having given various harmful teas, becoming frightened, advises the services of a physician. It is usually well for a physician to secure a specimen of blood and examine for malaria (this being good practice throughout the year in this immediate section), advising the expectant mother to protect herself from the bite of mosquitoes. Obtain a specimen of urine every two weeks, especially if patient complains of œdema of feet and ankles. It is impracticable to do a routine pelvemetry on these rural patients, and usually unnecessary, as they are more uniformly blessed with sufficiently large pelvic diameters than obstetricians would find among the urban population, with large foreign-born element. When called to an obstetrical case, it is usually wise to make a digital examination when pains are occurring at five-minute intervals. It is well to give a douche at this stage, mercuric-iodide or cyanide being preferable to bichloride, as either is less irritating to the tissues. If dilatation has well begun, or the os being easily dilatable, it is good practice to have an S. S. enema given. Routine catheterization is vicious practice, and should not be done except as a last resort; still in instrumental deliveries it is often the part of wisdom to catheterize just prior to delivery, provided the bladder is at all distended, all space possible being needed. Scrubbing up prior to digital examination, we first use a liquid soap, with gauze or scrubbing brush, remembering always that the surgeon's hand is from the elbow down. (Nail clippers and file come in handy here.) A basin of previously boiled water at hand, a paste is made with cyanide or mercuric-iodide and liquid soap, scrubbing the hands and forearms again thoroughly with a fresh piece of sterile gauze. Having donned a sterile gown, cleanse the vulva with liquid soap and cyanide or mercuric-iodide solution, and gloves preferably used for protection of both the acoucheur and patient. Being ready to make a digital examination, a pad prepared from several thicknesses of newspaper, covered with a thin cloth and stitched together, being about 36 inches square, is placed on the bed. An inflated Kelly pad, having previously been scrubbed with cyanide or mercuric-iodide solution, covered with a sterile towel, is placed on the pad, and the patient, on being put to bed, is instructed to pull the gown well up under the shoulders, to prevent soiling. A sheet may be placed over the patient, preferably a sterile one. Your inhaler and chloroform being in readiness, the patient is allowed to inhale a few drops throughout each pain, after the cervix is dilated, or easily dilatable. Amount to be governed by degree of uterine contractions. (The reason chloroform is so generally used down here, for obstetrical anæsthesia, instead of ether, is due, first, to the fact that we are usually called into homes having only lamplight, ether being highly inflammable; second, chloroform being high in specific gravity, not being so volatile, does not evaporate so rapidly, therefore necessitating the use of so much less, is much cheaper.) It is never advisable to allow your obstetrical patient to approach the surgical stage of anesthesia, rather a stage of analgesia being preferable. We find some of the most talkative patients are unable to relate any of the happenings taking place during their delivery. However much we should desire counsel in many of these rural deliveries, same is out of the question, being forced to administer the chloroform to a stage of obstetrical anæsthesia, oftentimes when the nearest colleague is a number of miles away, possibly engaged in similar work at the same hour.

It is assumed we have made an uncomplicated delivery. Having heard the first cry, the infant is placed on its right side, wrapped in a blanket to await the time we note no further pulsation of the cord. The cord having been ligated with umbilical tape, or half-inch sterile gauze bandage, rolled into cord, the cord is then severed, the infant is wrapped in a blanket and placed securely

out of the way. The obstetrician, having run his hands through a fresh solution of cyanide or mercuric-iodide, should scrutinize the birth canal for detection of possible perineal tear; same, if present, should be repaired with No. 2 medium chromic catgut. The fundus is then gently kneaded through the abdominal wall with the left hand, keeping the right hand surgically clean. Under no circumstances should the cord be pulled upon (watchful waiting being a wise policy here). The placenta having been delivered in toto, further gentle kneading of the fundus tends to aid contraction of the uterine wall, assisting in the expulsion of remaining blood clots, thereby tending to lessen the much dreaded after-pains. The infant's eyes being treated with a few drops of 10 per cent solution of either argyrol or silvol, some one is directed to anoint the newcomer with olive oil, this being allowed to remain on for 30 minutes or more; a tepid bath is ordered, a small quantity of castile soap is permissable, the infant being rinsed off in a tepid weak boric solution, say ʒj to basin of warm water, then dried and powdered with borated talcum. A gauze dressing applied to stump of umbilicus, dusting same with powdered boric acid, abdominal binder is then applied. The young American is dressed, again placed on its right side and securely wrapped.

The mother, in the meantime, is advised to turn on her side, the Kelly pad being removed, and parts cleansed of blood, apply vulval pad, made of absorbent cotton, wrapped with sterile gauze, made long enough to reach well under the buttock, mother is placed on her back, and abdominal binder sufficient in width to reach from lower ribs to well down on the hips, is now put on, being brought together in median line with safety pins, and tightened at waist on either side with additional safeties. Vulval pad may be held in place by pinning ends to lower border of abdominal binder, anteriorly and posteriorly. Such binders are directed worn for ten days or two weeks. (A sufficient number of vulval pads should be prepared.) There being no extensive lacerations, the mother is allowed to get up to stool, which assists in the expulsion of clots, and no seeming harm is done the patient. Mother should be cautioned against heavy diet; is directed to put infant to breast at regular intervals. Two hours apart first two months, then every three hours by day, one or two nursings being allowed during the night. A saturated solution of boric acid is supplied for bathing infant's eyes, mouth and mother's nipples. Mother may be given a daily hot cyanide or mercuric-iodide douche, after the first twenty-four hours, for hygienic reasons. Aromatic fluid extract of cascara, or other mild laxative, is given mother as indicated. The fact that the shock of childbirth so often precipitates an attack of malaria in our State, some salt of quinine may be directed given the mother, in 3-grain doses every four hours, almost as a routine. The fact that under no circumstances is the infant to have teas of catnip or any other harmful or irritating concoction that well-meaning grandmothers might suggest is impressed upon the mother. In case of possible wind colic in the infant, a bit of warm water is first resorted to; the infant should be kept sufficiently warm. If condition persists, an S. S. enema may be directed given (24 to 32 ʒs). Further treatment than this is rarely necessary. The mother is to be made to realize she has a little animal that is to be let alone, and nothing is to be done to retard its growth or development. The mother should be cautioned against lifting her infant for several weeks after delivery. She should partake of a moderate amount of wholesome food, directed to stay as free from worry as possible; warned against keeping infant too warmly clad, and guard against sudden chilling of its little body. Stressing the importance of being regular and systematic in the management of the newborn, reminding the mother that the infant may form habits the first ten days of its life that will affect it throughout its sojourn on earth.

This one fact seems hardest to impress on a young mother's cranial cortex.

In presenting this, nothing new has been offered; no attempt having been made to write a strictly technical paper. We have simply gone out together, and assisted into the world one of the many American citizens of the future.

Various preparations of pituitary extract having been given a thorough tryout over a period of several years, I am thoroughly convinced that its use has been much abused; many cervical and perineal tears could be traced to its indiscriminate and reckless use.

Bisulphate of quinine, in 5 or 6 grain doses, per mouth, may be given occasionally in cases of uterine inertia, repeated in 2 or 3 hours, if indicated. The same may be given hypodermatically in gluteal region; if not well borne, per mouth.

Morphine and scopolamine have no place in rural obstetrical work.

The fact that no grannie is capable of rendering her hands surgically clean, or guarding against infection of patient, should be impressed on the public generally by all those doing strictly ethical obstetrical work, and that it is false economy to engage first the grannie and later call a physician to a case of puerperal septicæmia, or opthalmia neonatorum. No obstetrician has done his or her duty by posterity, in such capacity, who falls short of giving the aforementioned instructions, or their equivalent. Of course it goes without saying, all are privileged to go as far beyond this as they like, toward giving all participants a square deal. No indication has been found for use of castoria, or so-called teething powders, or any other patent concoction, recommended by its manufacturer for treatment of infants or mothers. Instances of more or less permanent gastrointestinal conditions and retarded growths resulting from strong catnip tea, being ordered given infants a few hours old, can be sighted. This solution of tannin, being a gastro-intestinal irritant, produces a local rash when administered, most grannies insisting that the infant is bound to die if the hives are not brought to the surface.

To recommend or endorse the use of any of the patent infant foods, with our present advance knowledge, is nothing short of criminal, as all in the profession doing general work should be capable of prescribing cow's milk, *correctly modified*. Gentlemen, do we who are engaged in general practice devote the time and study to this part of our work it well deserves? Suppose each of us, who expect to continue in the work, resolve to devote a few minutes each day to systematic reading on the subject of pediatrics rather than utilizing so much of our time investigating major surgical work, I dare say, 95 per cent of us will never attempt trying out. Would not this be a great step toward cutting down the appalling infant mortality? What is more vital to a nation and its future development than the conservation of its native-born? Admitting that the vast majority of us are scrubs; we should do our part individually and collectively toward making thoroughbreds of young Americans of the future. In other words, apply Mr. Burbank's system, growing human chrysanthemums rather than rag-weeds. Prenatal care and proper education of its mothers is the ideal foundation for preparedness of a people; for we are told that no weak or diseased body is capable of supporting a healthy mind.

ORAL AFFECTIONS AND THEIR EFFECT UPON THE GENERAL HEALTH.*

Wilmer S. Hall, D. D. S.,

Pensacola, Fla.

Our profession has, during the last few years, awakened to the fact that as individual dentists we have a very well-defined mission for humanity. We are rapidly learn-

*Read before the Escambia County Medical Society, at Pensacola, March 27, 1917.

ing this truth, that to secure better public health we must add to the physical, mental, and moral efficiency of the individual. Its importance in the medical profession is also clearly indicated when men of such standing as Mayo, Billings, Rosenow, and Craig, each contribute a paper on this subject at a meeting of the American Medical Association.

The community's health is the total of the health of the various separate individuals that comprise that community, and that which causes the sickness and death of an individual, by so much lessons the total efficiency of the community. But in addition to this, if the sickness of the individual is contagious and so likely to extend and incapacitate others, by so much more it becomes a matter of general concern. While diseases of the mouth, nose and throat directly cause but a small proportion of deaths, they indirectly cause a much larger proportion, and they do cause a very large part of the disability from sickness. Ordinary colds and sore throats of all kinds, practically all ear troubles, most cases of grippe, and all cases of sinus diseases would at once occur to all of you as being included in the list of causes of sickness, but in addition, most cases of diphtheria, scarlet fever, measles, smallpox, and other contagious diseases would come under this head because most infectious diseases find their means of entrance to the body through the nose and mouth. Sound teeth, a healthy mouth, and oral prophylaxis do much to resist such infections.

For years, some of our leaders in the dental and medical profession have recognized, in a general way, that the condition of the teeth has much to do with the health of the individual, but only during the last few years has the direct relationship between oral hygiene and constitutional conditions been scientifically established. Mayo, speaking at the opening of the Research Institute of the National Dental Association, reminded us of the splendid contributions of the Chinese, of the great contributions of Greeks, and finally came to the present decades and reminded us how one after another the great scourges had been taken from the earth by medical science, and then, as his climax, said the great mass of people today would not die from one of those plagues, they would die from a simple infection, that ninety out of every hundred probably die of some simple infection, the result of a focal infection, which focus itself would give them no trouble. He then referred to the fact that 90 per cent of the lesions of the local infections are above the collar, and of those above the collar would include tonsils, the antrum, the nasal passages and sinuses, that for the largest part come from oral infections.

Dr. Price, of the Research Institute, says: "If we take the amount of debris from a decaying tooth that would be represented by a milligram, an amount that you could carry on the head of a pin almost, and count the organisms in it, you would have all the way from 10,000,000 to 250,000,000 or 500,000,000 in that quantity, a thing we have not realized, and when you think that that milligram of material would only be a fraction of the total amount in the mouth, we get an idea of the amount of infection we are carrying around with us." Dr. Hartzell said, at the same meeting, that if any one of us had an abscess area as large as a penny on our hand our physician would be very careful to have it covered or protected, but if we have an abscessing area or pyorrhœa pocket one-eighth of an inch deep around each tooth in the mouth we would have four square inches of abscessing area, and because it is in the mouth we have paid little attention to it until very recently.

Dr. W. A. Evans, Commissioner of Health of Chicago, who is accredited with having done more for the health of that city than any living man, in discussing this subject not long ago, said: "The importance of diphtheria, I am sure, is fully understood but the enlargement of the glands of the neck, of the nose, of the tonsils and of the pharynx are not so clearly understood.

They are due to absorptions somewhere in the nose or within the mouth and a large per cent of which absorptions take place through cavities in the teeth or down the sides of unclean teeth. We are constantly confronted with instances like this: A child has been in a diphtheria hospital and remained there till it seemed safe for the child to go home. Then the child has gone home and there has followed an infection of diphtheria in that home. What is the explanation? Simply that in some recess, somewhere in that child, there was a focus of hidden bacteria and in all probability a large percentage of these infections are either in tooth cavities or somewhere in close connection with tooth cavities."

Diseased teeth play another important part: the pus from one abscessed tooth may supply a constant infection to the membrane of the stomach, and the result is gastric catarrh. The contents of the stomach, with the added handicap of poorly masticated food, passes on into the smaller and large intestines where the entire mass rots or auto-intoxication is manifest with all of its disastrous results, and then again it may be manifest in a very much more obscure way, such as arthritis, heart lesions, pernicious anemia or any of the nervous diseases of the neuralgic type, in fact most any of the ills the race is heir to.

What It Means to the Laboring Man and the State, Through Lowered Efficiency, to Have Oral Disorders.

We will take a working man. We will say, first, there is a slight opening of the interdental space; food packs into that space, irritating the gum. Quite naturally he gives up mastication on that side of the mouth; caries progresses until the pulp is exposed, the tooth aches, and he goes home from work. The pulp in the tooth may die in twenty-four hours, or it may stop aching, only to start again in a few days. If the pulp dies, in a period of time we have the acute alveolar abscess, and at last in desperation he goes to the dentist and has it extracted. During this time, due to disuse, quantities of filth have accumulated over the other teeth on that side of the mouth, caries has started in the tooth next to the one extracted, and within a few months he goes through the same experience. By this time the other teeth have become decalcified, and within a comparatively short time he loses every tooth on that side of the mouth, and it is easy to understand this man could not be marked 100 per cent in efficiency during this period. If we admit the teeth to be necessary to mastication and digestion, we know that the employee can not enjoy the good health he would have had, had we been able to prevent the first cavity, or at least to persuade him to have dental service before it was too late. One author tells us that in New York city last year 67,000 children failed of promotion to higher grades because of absence, 80 per cent of which can be laid to defective teeth, and it costs New York over a million dollars to duplicate a year's schooling to these absentees. Those same children will, in a few years, be employed by our industrial concerns and a large percentage will fail of promotion on account of poor health due to bad mouth conditions. This tells its own story, inability to masticate the food properly, and you medical men know better than I do the results of improper digestion which are bound to follow. What can be done by way of prevention? The first thing necessary is the co-operation of the medical man; he is the first to see the pregnant woman; he should instruct her what to eat to supply the necessary mineral salts to build bone and teeth, and send her to the dentist for instruction in regard to the care of the mouth. The dentist should instruct her regarding the mouth of the child when it arrives, also regarding the care of that mouth after the teeth begin to erupt. It is possible to take a child at this time and prevent the formation of cavities, and it is most important that it should be done. The use of the X-ray in diagnosing diseased conditions of the mouth has so stimulated study of the relation of mouth infections in

relation to systemic diseases and the knowledge we are acquiring forces us to the conclusion that the medical and dental professions must get closer together in order that patient, physician and dentist may be mutually benefited, and so by teaching oral hygiene to our patients and they to their families we are benefiting the community by producing better health and thereby raising the general efficiency of the community at large. Therefore I hope that we dentists and medicos will be more wide-awake in the future to this important matter.

REVIEW OF 148 OBSTETRICAL CASES.*

J. S. Turberville, M. D.,

Century, Fla.

The present study covers a period of the last four years. The conditions under which these confinements were made were far from ideal. In many instances it was amidst the most unsanitary surroundings. In not more than half a dozen cases was a trained nurse used. The results must therefore be looked at from the standpoint of inexpert nursing, and in many instances the grossest ignorance prevailed. This series does not include cases seen in consultation.

There were 130 whites and 18 colored patients. The average age of the mothers was 27 16-47 years, based on a count of 141. The average age of the fathers, based on a count of 66, was 30 9-11 years. Swollen legs and feet were recorded 34 times, and of this number 5 were due to varicose veins. Hookworm infection was found 7 times, and 2 of this number had convulsions. However, convulsions were recorded 4 times, toxæmia 6 times, albumunuria was recorded 14 times, and glycosuria 4 times. This makes a percentage of 9.7 per cent with albumen and 2.7 per cent with sugar. Eleven had puerperal sepsis, 1 mammimitis, 2 mastitis, 1 cystitis and 1 cholecystitis. There were 29 constipated, the heart was irregular in 1 case, 4 had systolic apical mumurs and 1 had systolic basic. The average pulse rate of the mother was 88 91-97 observed 2½ weeks before birth. There were 29 perineal tears; of course this includes the fourchette ruptures as well as other slight and deep tears. I did not count the number of these that required suture. Two deaths are recorded, one from puerperal eclampsia, and one from nephritis complicated by a myocarditis. The latter died 42 days after childbirth. I had no opportunity for observing her before the birth of her child, so do not know how long her kidneys had been involved. Forceps were used three times and podalic version once.

I will make an explanation here of what was regarded as puerperal sepsis. Fever in the puerperum, unless some other cause could be found, was taken as puerperal sepsis, especially if a differential blood count showed a high percentage of polynuclear neutrophile cells. No cultures were made from the interior of the uterus.

Of the 128 cases in which the presentation was recorded, 126 were vertex, giving a percentage 98 7-16. The prenatal diagnosis of position were L. O. A., 83; R. O. A., 26; R. O. P., 17; R. S. A., 3, and L. S. A. 1. The positions as determined at birth were L. O. A., 89; R. O. A., 29; R. O. P., 8; R. S. A., 1; L. S. A., 1. The latter figures out in percentages L. O. A., 69 5-10; R. O. A., 22 6-10; R. O. P., 6 2-10; R. S. A., 75-100, and L. S. A., 75-100. I will say here that the average time at which the prenatal diagnosis was made was 2 1-2 weeks. Really all the prenatal observations were made at this time. The fetal heart sounds were observed before birth 45 times—24 white males, with an average of 139.5 per minute; 18 white females, 134.1 per minute; 2 colored males, with an average of 130, and one colored female, 144. The average weight of the white males at birth was 8.37 pounds, 58 counted; females, 7.95 pounds, 45 counted; the colored males, 7.75 pounds, and colored females were 7.8, 6 of the

*Read before the Escambia County Medical Society at Pensacola, March 13, 1917.

former and 4 of the latter counted. There were altogether 87 males and 67 females.

The greatest number of babies were born in April and May, and the next greatest number in July and August, the lowest were in January, February, March and June. In this series the time of day at which birth was most frequent, was from 12 midnight to 12 noon. Dividing the day into four periods, the greatest frequency was from 6 a. m. to 12 noon. Ten babies died during attendance.

No literature has been examined, therefore no comparisons are made.

PROPAGANDA FOR REFORM.

Acetylsalicylic Acid, Not Aspirin.—While Aspirin-Bayer has been omitted from New and Nonofficial Remedies, the product is retained under its scientific name, acetylsalicylic acid, and standards are provided to ensure the reliability of the market product. The Aspirin patent expires in February, 1917, and after this time other manufacturers may make and sell the product. One firm's brand, that of the Powers-Weightman-Rosengarten Co., has been accepted for New and Nonofficial Remedies, 1917. Hereafter physicians, when prescribing the compound should use the scientific name, "acetylsalicylic acid." (*Jour. A. M. A.*, Jan. 20, 1917, p. 201.)

Aspirin-Bayer Omitted From N. N. R.—Aspirin-Bayer is advertised to the public, indirectly by means of "vest-pocket" boxes bearing the name "Aspirin" permanently affixed, and directly by means of extensive newspaper advertising. Inasmuch as this advertising propaganda is an infringement of the rules of the Council and is against the interests of public health, the Council voted to omit Aspirin-Bayer from New and Nonofficial Remedies. (*Jour. A. M. A.*, Jan. 20, 1917, p. 213.)

Casta-Flora.—The Council on Pharmacy and Chemistry reports that Casta-Flora, put out by the Wm. S. Merrell Chemical Co., is one of those complex preparations which are offered to the medical profession with plausible arguments in support of the claims made. The Council finds the claims made for this mixture of drugs—which is said to contain or represent chestnut leaves, passion flower, gelsemium, elecampane, "iodized lime," menthol and yerba santa—and for the individual ingredients thereof, extravagant and misleading. Even if the ingredients, or certain of them, were useful in the treatment of those conditions for which Casta-Flora is recommended, no one could possibly forsee the effects in any given case from this jumble of drugs. The Council holds that the prescribing of such mixtures, the action of which cannot be forseen, is plain charlatanism and declares Casta-Flora inadmissible to New and Nonofficial Remedies. (*Jour. A. M. A.*, Jan. 27, p. 303.)

Human Ease.—The Federal authorities have issued a fraud order, denying the use of the mails to the Human Ease Medicine Co., of Atlanta, Ga. Human Ease was guaranteed "to cure all diseases both in and on man and beast." Analysis showed it to be an ointment composed of lard with a little sodium bicarbonate, sodium sulphate and potassium nitrate, flavored with oil of sassafras. (*Jour. A. M. A.*, Nov. 18, 1916, p. 1540.)

Intravenous Therapy.—The technic, although not difficult, must be thoroughly mastered, or undue pain, infection, air embolism, or even death may result. Often a drug has an action different from that obtained by the usual method of administration. Deaths have resulted not only from a lack of proper technic, but also from a lack of knowledge of drugs so administered. Thus death has followed the injection of an iron preparation containing peptone, and also following intravenous injection of ether. Intravenous injections, while sometimes superior to the slower methods, are distinctly inferior when a continuous rather than a sudden action is desired as with

iodids, nitrites, iron or salicylates. Intravenous injections should not be resorted to unless distinct advantages are to be secured, as when immediate action is necessary in emergencies, where the drug is not otherwise absorbed or is destroyed in the stomach. In the light of our insufficient knowledge of the action of simple drugs when administered intravenously, the injection of complex mixtures of drugs is particularly reprensible. (*Jour. A. M. A.*, Nov. 11, 1916, p. 1450.)

Iron Citrate, Green.—H. K. Mulford Company and E. R. Squibb and Sons submitted to the Council on Pharmacy and Chemistry ampules containing solutions of iron citrate, green. It thus became necessary for the Council to consider the eligibility of iron citrate, green, itself for admission to New and Nonofficial Remedies. As the rules of the Council provide that nonessential modifications of official or nonproprietary preparations will not be recognized, the above named firms were asked to state what advantage, if any, the so-called iron citrate, green, has over the official iron and ammonium citrate. Inasmuch as no evidence was presented to show that iron citrate, green, has any advantage over the well-known iron and ammonium citrate, the Council held that iron citrate, green, and with it the dosage forms, were ineligible to New and Nonofficial Remedies. Advised of this decision, the Mulford Company replied that in the present case it felt bound to supply the existing demand. Squibb and Sons replied that, to give the Council its support in this matter, the sale of iron citrate, green, and ampules thereof would be discontinued. (*Jour. A. M. A.*, Jan. 13, 1917, p. 135.)

More Misbranded Nostrums.—Chiefly because of unwarranted therapeutic claims, the following "patent medicines" were found misbranded under the Federal Food and Drugs Act: Goff's Cough Syrup, a syrup containing some vegetable extractive and traces of iron, iodids, antimony and alkaloids. Goff's Herb Bitters, a water-alcohol solution of aloes, sugar and alkaline carbonate flavored with peppermint. Dander-Off, an alkaline solution of borax and white arsenic colored with coal-tar dye. Tu-Ber-Ku, a tuberculosis cure containing 20 per cent alcohol. Electrozone, claimed to contain or to liberate ozone. Orange Blossom Female Suppositories, containing boric acid, aluminum salt, sulphate, potassium salt, sodium salt, starch and petrolatum. Dr. Simpson's Vegetable Compound, essentially an alcohol-water solution of potassium iodid with a small amount of vegetable extractive in which podophyllum, licorice and gentian were indicated. Weller's Stone Root and Gin, containing 37.5 per cent alcohol. (*Jour. A. M. A.*, Jan 13, 1917, p. 135.)

More Misbranded Nostrums.—The following "patent medicines" have been declared misbranded under the U. S. Food and Drugs Act, chiefly because unwarranted curative claims were made for them: Dr. Thatcher's Liver and Blood Syrup, claimed to cure all liver complaints and many other ailments. Black's Pulmonic Syrup, a water-alcohol solution of ichthyol, glycerin and sugar. Walker's Pain Destroyer, an alcoholic solution of oil of mustard, chloroform, opium and collodion. Musterole, a mixture of lard or some similar material with oil of mustard, menthol and camphor. Snyder's Bitters, claimed to eradicate scrofulous humors, syphilitic affections, cancerous humors and many other ailments. "5 Drops," a mixture of eucalyptol (or a eucalyptol-containing oil), camphor, safrol, terpineol and eugenol (or an oil containing those ingredients, such as camphor oil). Dr. Stuart's Specific Drops, a mixture of camphor, alcohol, mercuric idodid and turpentine. (*Jour. A. M. A.*, Jan. 20, 1917, p. 214-215.)

Toilet Lotion.—Nothing is better to soften and whiten the skin than the official cold cream. For oily skins a tragacanth lotion is suitable. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1618.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.
Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.
Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.
GRAHAM E. HENSON, M. D.....*Jacksonville*

ASSOCIATE EDITORS.
THOMAS TRUELSEN, M. D.....*Tampa*
J. K. SIMPSON, M. D.....*Jacksonville*

COLLABORATORS.
RAYMOND C. TURCK, M. D., F. A. C. S., Jacksonville *Surgery*
THOMAS TRUELSEN, M. D., Tampa.....*Medicine*
GERRY R. HOLDEN, M. D., F. A. C. S., Jacksonville *Gynecology*
JAMES D. LOVE, M. D., Jacksonville.....*Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville.... *Eye, Ear, Nose and Throat*
I. L. KIRBY-SMITH, M. D., Jacksonville...*Dermotology*
E. G. BIRGE, M. D., Jacksonville..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.
E. W. WARREN, *M. D.*, President ..... *Polatka*
JOHN A. SIMMONS, M. D., First Vice-President .....*Arcadia*
E. VAN HOOD, M. D., Second Vice-President .....*Ocala*
JOHN LONG, M. D., Third Vice-President .....*Lake City*
GRAHAM E. HENSON, M. D., Secretary-Treasurer .....*Jacksonville*

EXECUTIVE COMMITTEE
R. H. McGINNIS, M. D.....*Jocksonville*
JOHN MACDIARMID, M. D.....*DeLond*
R. N. GREENE, M. D.....*Chattahoochee*

COUNCILLORS.
First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920
Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: Henry E. Palmer, M. D., Tallahassee 1917
Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. Page, M. D., Live Oak 1917
Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville..1918
Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala..1919
Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa.....1919
Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park P. O., New Smyrna.....1918
Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920
Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918
Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia.....1920
Eleventh District—Dade, Monroe and Palm Beach Counties: W. R. Warren, M. D., Key West.....1917

COMMITTEE ON SCIENTIFIC WORK.
F. C. MOOR, M. D .....Tallahassee
C. D. CHRIST, M. D.....Orlando
F. F. FERRIS, M. D.....Apalachicola

Next Meeting — Atlantic Beach — May, 1917

THE NATION'S CALL.

As THE JOURNAL is going to press the Congress of the United States is discussing the war bill advocated by the administration. Their seems to be little doubt that this bill will pass both houses of Congress and by the time this issue of THE JOURNAL is off the press will have become a law. It provides for an expanding army and the mobilization of 500,000 will commence at once.

In a letter addressed to a member of the Auxiliary State Committee of Florida of the Committee of American Physicians on Medical Preparedness, under date of April 2d, the Surgeon General of the Army states that ten medical officers for each 1,000 troops under arms will be needed. In furnishing its quota this means that Florida should provide at once at least fifty medical officers.

It is only right that the younger men of the profession should fill this need and it is believed to be the policy of the War Department at this time to make up the requirements of the Medical Department with men under thirty-five years of age. There is no gainsaying the fact that all men under this age have a duty to perform and an immediate duty. That in the near future it may be necessary to go over this age there is probably little question, but for the immediate present it is doubtful if there is any call for married men with families to clamor for military duty.

A careful perusal of President Wilson's recent proclamation makes it plain that the military necessities are not the Nation's only necessities and many men now in civic life can best serve their country by remaining at their present posts.

Information concerning requirements for appointment in the Medical Officers Reserve Corps will be found below. At the present time Dr. Ernest McRae of Tampa and Dr. Graham E. Henson of Jacksonville are authorized by the Surgeon General of the Army to conduct the physical and mental

examinations of all applicants for appointment in the Corps.

INFORMATION RELATING TO APPOINTMENTS IN THE MEDICAL OFFICERS' RESERVE CORPS OF THE ARMY.

Under the new regulations for the examination of candidates for appointment in the Medical Officers' Reserve Corps of the Army, the candidate is required: First, *to submit his application in writing to the Surgeon General of the Army;* second, *the application should be* accompanied by two testimonials; and, third, the Personal History *blank,* properly filled in as directed thereon, *after having the same certified to before a Notary Public.*

The requirements for appointment are that the applicant be a citizen of the United States, between 22 and 55 years of age, a graduate of a reputable medical school legally authorized to confer the degree of doctor of medicine, he must have qualified to practice medicine in the state in which he resides, and be in the active practice of his profession.

The examination is physical and professional; the professional examination to be oral, except in case of failure, when it will be written. Such written examination will be in the following subjects:

1. Practice of medicine, including etiology, clinical description, pathology, and treatment of diseases.
2. Surgery—principles and practice.
3. Obstetrics and gynecology.
4. Hygiene—personal and general, especially as to the prophylaxis of the more prevalent epidemic diseases.

Specialists will be examined in their specialty.

Commissions are issued for a period of five years, at the end of which time officers may be recommissioned in the same or higher grades, that is, first lieutenant, captain, and major.

The Act of June 3, 1916, creating the Medical Officers' Reserve Corps, provides that in time of peace only those of the grade of first lieutenants may be ordered to active duty, and this with their own consent, but in time of war the services of officers of all grades are at the disposal of the Government.

THE ATLANTIC BEACH MEETING.

The preliminary program of the Forty-fourth annual meeting of the Association appears in this issue of THE JOURNAL. It will be seen that the Committee have done their work well and an interesting meeting is assured to all. Attractive rates have been offered by the management of the Atlantic Beach Hotel and it is earnestly hoped that a considerable number will take opportunity of the generous week-end rates offered. At this time of the year this popular resort is at its best and outside of the rest to the individual member THE JOURNL believes that a get-together meeting of the profession is particularly desired at this time. The routine takes up all the available time during the meeting itself and it is believed that considerable good could come of an informal gathering at which could be discussed various matters of vital interest to the profession of the state. It is therefore earnestly hoped that all who possibly can arrange their private affairs will remain over the week end. Make your reservations. Negotiations are under way to transport visiting members from Jacksonville to Atlantic Beach by automobiles. Announcement concerning transportation arrangements will be made at a later date through the daily press.

AN IMPORTANT EPOCH IN TUBERCULOSIS CAMPAIGN.

It is difficult to overestimate the importance of the announcement of a new technical tuberculosis journal, *The American Review of Tuberculosis.* Up to the present, the most important phase in the campaign against this disease has been popular edu-

cation. Exhibits, lectures and pamphlets, prepared in the most elementary terms, have for the past fifteen years brought home to the mass of the people clearly and definitely that this dread disease, which annually takes a toll of 200,000 valuable human lives in this country alone, is preventable and curable in its early stages. These methods have pretty thoroughly dispelled the ancient idea that tuberculosis is hereditary; that once it is fastened upon a human being, there is no hope. The campaign has thrown light into many a dark corner. It has instilled hope in many a breast where before there had been only despair. It has brought a new appreciation of the value of human life and the importance of disease prevention in all fields of health work. The campaign has been probably one of the most important factors in the new appreciation of the importance of preventive methods.

It is encouraging to realize that behind all of this emphasis on popular education there has been a most substantial basis of scientific research and the development of an important mass of special technique. Many, even the most thoughtful layman, however will, no doubt, be surprised that the quieter side of the tuberculosis campaign has grown to such proportions that it demands for its proper expression a monthly publication, comparable in purpose to the many technical medical journals already in existence.

In its editorial announcement the *Review* says:

"It is only within the last five or ten years that our knowledge of the relations of infection to disease has taken definite form. Years ago an elect few had a glimpse into the probability that to be a civilized human being was to be tuberculous and that only a few of the myriads of the tuberculous ever developed tuberculosis. But at the time the facts were not at hand to warrant positive statement. Today they are. And if anyone doubts that we have learned much and have traveled a long way since 1905, let him read a work on tuberculosis of today and contrast the point of view with that held ten years ago. Or let him read the writings of Dr. Trudeau consecutively, beginning about 1890 and ending in 1915. He will see how timidity of statement gradually hardens into positiveness and, here and there, evolves even into pregnant prediction as the hard-won facts come in—all too slowly sometimes yet uninterruptedly."

Our changing point of view requires that we undertake new studies and perhaps alter or supplement our method of attack. During the last fifteen years we have drifted far from the Cornet doctrine that we inhale infectious dust and soon thereafter fall ill or the Flugge dogma that we live in a world of noxious droplets from which there is no escape unless we cease our coughing, sneezing, laughing or loud talking. We now talk of preventing the development of tuberculosis by keeping under control old and long-established benign tubercle. We study the infected individual and try to discover what it is that ripens old quiescent tubercle, how the germ gains entrance to the body, where it goes after it enters, what effects it produces immediately, how it spreads from place to place and what factors determine its ultimate effects. Moreover the discovery of salvarsan, a remedy for a kindred disease, and the theoretical studies that led to this discovery have stimulated a great deal of work in the search for a therapeutic agent against tuberculosis. And anyone who has lived through the last twenty years and has seen the vaunted cures come and disappear will affirm that never before has the quest for a cure for tuberculosis proceeded along such rational lines as now.

The health forces of this country may find much encouragement in the results achieved by the anti-tuberculosis movement in the last ten years. In 1905 the death rate was 200.7 per 100,000 of population; in 1916 the rate was 146.8 per 100,000 of population. Stated in another way this means that if the death rate of 1905 had

continued in 1916, there would have been 53,960 more deaths from tuberculosis in this country than actually occurred. Some of the reasons for this saving is found in the following facts: there were 500 more tuberculosis sanatoria and hospitals in 1916 than in 1905; 430 more clinics last year than in 1905; 1,370 more anti-tuberculosis associations and committees last year than in 1905; there were approximately 900 open-air schools in 1916, whereas in 1905 there were none. There were 4,000 tuberculosis visiting nurses at work last year as compared with fifty in 1905.

Making available to the whole medical profession through the columns of a technical journal the mass of experience which must have been developed by these many agencies, and the results of the thousands of experiments which go on from day to day in laboratories, will undoubtedly have a most important effect in the near future on the death rate from this disease.

THE FATE OF TRYPSIN IN THE STOMACH.

The proteolytic enzyme of the pancreatic secretion has long been regarded as exceedingly sensitive to acids. In the presence of even low concentrations of acids, the tryptic power seems to be permanently diminished or completely lost. Many believe that gastric juice is peculiarly destructive to the proteolytic pancreatic ferment by virtue of the action of pepsin on the enzyme. There is a practical aspect to this. On the one hand it concerns the possible survival of tryptic power when intestinal contents are regurgitated into the stomach, as occasionally happens. On the other hand, the futility of administering trypsin preparations by way of the mouth must be gaged in part by the fate of the enzyme in its contact with the gastric contents. Judging by experiments which Long and Hull have conducted in vitro, it appears that the common proteolytic enzyme of the pancreas, isolated as trypsin, is capable of withstanding a rather long digestion in presence of hydrochloric acid and pepsin, provided sufficient protein of some form is present to combine with all or part of the acid and so bring the hydrogen-ion concentration down to a certain level. They have now corroborated these findings by a study of what happens in the living stomach of animals under conditions which might well obtain in the human stomach at times when trypsin is ingested.

Long and Hull report new experiments in which the secretion of pepsin and acid was abundant, and from this point of view the conditions for the persistence of trypsin were not favorable. Yet, in the larger number of experiments, the latter ferment was not destroyed by the other combination when sufficient protein was present to bring the concentration of the free acid down to a certain value. Trypsin seemed to be destroyed or greatly weakened only when the acid was in excess with pepsin. From these observations it appears, further, that possibly some tryptic digestion may occur even within the stomach when the free acid is low from protein combinations; and the destruction or weakening of the trypsin is a function, probably, of the hydrogen-ion concentration. The trypsins employed in these experiments were relatively strong products. It is not to be concluded that these results even remotely suggest that the administration of a few grains of the various commercial products claimed to contain trypsin or pancreatin would have any therapeutic significance. In the dosages employed, such preparations are, as has been shown elsewhere, too weak to have any appreciable action.—*Journal of the American Medical Association*, Feb. 17, 1917.

BETTER PUBLIC HEALTH ADMINISTRATION FOR SMALL COMMUNITIES.

It is quite generally conceded that the public health is more carefully safeguarded in metropolitan districts than in small cities, villages and rural communities. As a result

we frequently find a higher incidence of contagious diseases, and especially of typhoid fever, in the small villages and on the farm than in the congested districts of large cities. It has been shown also that the health of schoolchildren in cities as a rule is better than that of the children in rural districts.

In most rural districts and small cities and villages little or no provision is made for public health work, whereas in most large cities fairly adequate annual appropriations are made for this purpose. Many dwellers in small cities and villages are beginning to realize the failures in this direction. The chief difficulty heretofore has been to find a way to finance an efficient health department for such communities. It is evident that a city of from 2,000 to 3,000 inhabitants hardly would see its way clear to hire a full-time health officer, a school nurse, and a dairy and milk inspector. A small community could hardly make use of all the time of a health officer and school nurse, and hence there would seem to be needless extravagance. This difficulty has recently been overcome by two successful experiments in cooperation of neighboring small cities (at Wellesley, Framingham, Needham and Melrose, Mass., and LaSalle, Peru and Oglesby, Ill.) whereby it is made possible jointly to support a full-time health officer and assistants and to make proper use of their whole time.

The second annual report of the Hygienic Institute, the Department of Health for LaSalle, Peru and Oglesby, Ill., which has just appeared, shows what can be done by cooperative effort. Prior to the establishment of the cooperative health department, these three cities had no more in the way of machinery for proper health administration than most other cities ranging in population from 5,000 to 12,000 inhabitants. Each had a part-time health officer, two of whom received $25 a month and one $35. With such meager salaries not much service could be expected, and no attention was paid to milk and dairy inspection, medical inspection of schoolchildren, epidemiologic investigation or collection of vital statistics. Epidemics of smallpox, diphtheria and scarlet fever were of frequent occurrence, and in many instances the patients were not isolated, but could be seen walking the streets if not too ill to be confined to their beds. Diphtheria patients were practically always released as soon as the membrane disappeared, often in less than one week from the time of onset, and scarlet fever patients were quarantined only from two to three weeks, according to the severity of the case.

With the advent of the cooperative health department, these conditions were radically changed. Diphtheria patients are now quarantined until two negative cultures from the throat and nose are obtained on two consecutive days, and scarlet fever patients are quarantined for a minimum of five weeks. A milk inspection ordinance was passed and dairies and milk supplies are being systematically inspected and scored. Nearly all of the milk is now delivered in steam sterilized bottles and over half of it is pasteurized, whereas prior to the establishment of the cooperative health department most of the milk was dipped from cans on wagons and was not pasteurized. All dairy cows have been tuberculin-tested, and all reactors have been disposed of from those herds whose yield is not pasteurized. All grocery stores, meat markets and restaurants are being inspected and scored, and a vigorous campaign has been instituted against the insanitary outdoor privy. A medical school inspector and two school nurses have been employed, and close watch is kept over the schoolchildren lest any may come to school while suffering from a contagious malady. Physical examinations are made of all schoolchildren both in the parochial and the public schools once every two years, and all defects found are recorded on a proper card. All serious defects which might be a handicap to the child are reported to the parents with the suggestion that the child be taken to the family physician or dentist for proper treatment. All cases are followed up by

the school nurses, and in many instances in which the parents are unable to provide proper treatment, free treatment has been obtained through charity. A free dental clinic has been established at which all schoolchildren whose parents can not afford to pay for the services of a dentist receive dental care free of charge. An infant welfare nurse devotes all of her time to the care of infants and of mothers and prospective mothers, and one nurse devotes half her time to antituberculosis work.

The results of these measures are just beginning to be noticeable. During the first year there were forty-seven deaths from diphtheria and scarlet fever, whereas during the second year there were only sixteen deaths from these two diseases. During the first nine months of the third year, up to February 1, 1917, there have been but nine deaths from diphtheria and scarlet fever. The total death rate for the entire district was 15 per thousand during the year ending April 30, 1915, and 13.9 per thousand during the year ending April 30, 1916.

The total expense of the department, which serves approximately 30,000 people, has been $16,350 a year—certainly a profitable investment.—*Journal of the American Medical Association.*

ARSENOBENZOL (DERMATOLOGICAL RESEARCH LABORATORIES, PHILADELPHIA POLYCLINIC) AND DIARSENOL (SYNTHETIC DRUG COMPANY).

Report of the Council on Pharmacy and Chemistry.

Arsenobenzol is made by the Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia; Diarsenol is made by the Synthetic Drug Company, Toronto, Canada. Each of these preparations, like salvarsan, consists of the hydrochlorid of 3-diamino-4-dihydroxyl-1-arseno-benzene, with small admixtures of unimportant impurities. The Council found these products to be substantially identical with salvarsan in composition and equal to salvarsan in therapeutic efficiency. Both would have been regarded as entirely eligible for New and Nonofficial Remedies had it not been for a doubt on the subject of their legal status.

The Dermatological Research Laboratories and the Synthetic Drug Company were therefore asked whether in their opinion the sale in the United States of Arsenobenzol (Dermatological Research Laboratories) and Diarsenol (Synthetic Drug Company) was illegal, and if physicians using them are liable to legal proceedings by the owners of the salvarsan patent.

Dr. Schamberg, on behalf of the Dermatological Research Laboratories, replied:

"* * * in all probability our product Arsenobenzol would be regardel by a court as an infringement on the salvarsan patents. We have had a sort of gentlemen's agreement with the American representatives of the Farbwerke-Hoechst Company whereby our laboratories would not be interfered with in distributing Arsenobenzol to the medical profession during the period that salvarsan could not be obtained in the American market. On the other hand, we tacitly agreed to cease marketing our product when a sufficient supply of the German preparation became available to the profession of this country. If in the future the supply of salvarsan should again become exhausted or so seriously impaired as to cause hardships in this country, we would again furnish the drug to physicians and hospitals. Under such circumstances no court would construe that a physician using our drug was rendering himself liable to legal procedure."

The Synthetic Drug Company replied:

"* * * we claim that Diarsenol is chemically identical with Salvarsan.

"Without, however, going into the question of whether it is manufactured by us exactly under the specifications of the patent in question, we might point out that in any event our product Diarsenol is legally manufactured in this country (Canada) under a license and subject to a royalty which is paid to the commissioner of patents.

"Whether this royalty is ultimately paid to the holders of the Canadian patent, Meister Lucius & Brüning, or not may depend upon the treatment accorded to British patentees by the German government after the war.

"The same firm are the holders of the United States patent, and we might point out that the salvarsan sold in the United States is not manufactured there but is imported from the patentees' own factory in Germany.

"At the present time Meister Lucius & Brüning are not in a position to furnish for the United States the product made by them in Germany, and as they are not attempting to manufacture in the United States they can not be suffering any damage by the sale of our product, but on the other hand may in reality be profiting by it, if ultimately they receive the royalties paid by us to our government.

"On this account we do not think they could successfully maintain an action in the United States as they could not show that they are suffering any damage from loss of sales, and certainly not from the cutting of prices.

"Whether or not they would institute legal proceedings it is impossible to say, but so far they have not done so and our product has been on the United States market for nearly a year.

"If an action were brought there might possibly arise questions as to the validity of the United States patents, but there is no necessity of raising this question at the present time."

Owing to the possibility of patent complications, and the apparently temporary status of at least one of these products, the Council deemed it advisable not to admit Arsenobenzol (Dermatological Research Laboratories) or Diarsenol (Synthetic Drug Company) to New and Nonofficial Remedies. At the same time, it desires to point out that these products are apparently identical with salvarsan.—*From the Journal A. M. A., Sept. 16, 1916, p. 879.*

AN APOLOGY.

The Journal regrets that this issue is so late in coming off the press. There have been many seemingly unavoidable delays in the arrangement of the Preliminary program and as there will not be time for another issue of The Journal to appear before the annual meeting it was desirous to have the program as near complete as possible before going to press. All subscribers and advertisers may be assured that The Journal will come off the press promptly in the future as it has in the past.

VACCINATION AGAINST ANTHRAX.

Improvements in the Preparation of Preventive Vaccine and Serum Assist in Minimizing Loss from This Disease.

Losses from anthrax, or charbon, which at the present time is responsible for the death of large numbers of livestock in low, moist lands of a more or less mucky character, may be minimized, acording to specialists of the United States Department of Agriculture, by the proper use of protective vaccine and the proper disposal of the carcasses of infected animals. This disease affects chiefly cattle and sheep, but none of the domestic animals is exempt, and even man is sometimes a victim. Some centuries ago it is known to have caused the death of more than 60,000 persons in southern Europe. Since that time the disease has apparently become less virulent, but it is still the cause of considerable loss to stock owners.

The preventive vaccine recommended by the Department of Agriculture is a development of the method devised about twenty-five years ago by Pasteur, the famous French savant. Since that time, however, scientists have succeeded in removing many of the objections to Pasteur's vaccine, and the new method is less dangerous to the animals treated and surer in its operation.

In a new publication of the U. S. Department of Agriculture, Farmers' Bulletin 784,

detailed directions for the administration of this treatment are given. The treatment consists, in ordinary cases, of an injection under the skin on one side of the animal, of 10 cubic centimeters of anti-anthrax serum, followed immediately by a similar injection, on the other side of the body, of 1 cubic centimeter of spore vaccine. In the case of sheep, which are peculiarly susceptible to the disease, the quantity of vaccine is reduced to one-fourth of a cubic centimeter.

In the bulletin mentioned, stock owners are warned to obtain the serum and vaccine from reliable manufacturers only, and not to administer the treatment unless the disease has already appeared in the vicinity, or the pastures on which the animals are to be turned out are known to be infected. Careless handling of the vaccine may result in spreading instead of controlling the disease.

The principle underlying this treatment is the same as that which in man has resulted in the minimizing of death from smallpox, typhoid, and other diseases. It consists in conferring upon men or animals an artificial immunity to the infection to which they are susceptible. Just how this immunity is conferred is a complicated scientific problem, but it is known that under certain conditions the introduction into the body of a very much weakened form of the germ that causes the disease will build up in the body a resistance that will protect it from subsequent attacks of the same disease in its normal and more virulent form. Anthrax affords an interesting example of the practical working out of this fact. A fly can easily carry a sufficient quantity of blood from an animal infected with this disease to kill a horse. Nevertheless, by repeated inoculations, scientists have succeeded in developing such a high degree of immunity in a horse that the animal has been able to withstand the injection of more than a pint of the most virulent anthrax culture obtainable. This, of course, is a much higher degree of immunity than is required to insure an animal against ordinary infection.

The cause of anthrax is a minute germ which multiplies rapidly in the body, especially in the blood, and produces poisonous substances which ordinarily cause death. The symptoms of the disease resemble, in certain respects, those of tick fever and blackleg. The differences which will enable stock owners to distinguish it from them are described in detail in the bulletin already mentioned. In acute cases, however, medicinal treatment is seldom effective. For this reason the best methods of combating the disease are to vaccinate all animals likely to be exposed to the infection and by deep burying or cremating of infected carcasses, to make certain that the infection is not allowed to establish itself in pastures.

It is a well-known fact that under certain conditions and in certain forms the germs of the disease are remarkably resistant to heat, cold, and drought. They will remain for a long time in a pasture and be capable of infecting any animals turned out on it. Ordinarily the disease is taken into the body through the mouth with food. It may, however, be absorbed through a wound or even an insignificant scratch. It is in this way that human beings usually become infected, and the name "woolsorter's disease" is derived from the fact that men engaged in sorting wool are particularly liable to contract the disease through infection of scratches or other small wounds or abrasions on their hands.

Experiments have shown that if the carcass of an infected animal is buried promptly without having been opened to permit the entrance of air, the anthrax germs die within a short time. If, on the other hand, the carcass is allowed to remain in the field or is thrown into a nearby stream, the gradual decomposition favors the transformation of the germs into minute bodies known as spores. It is in the form of these spores that the disease persists so long in infected pastures and elsewhere. For this reason great care should be taken never to skin or to cut open the body of an animal killed by anthrax. The blood that flows out when this is done is one of the

most dangerous means of spreading the infection, if it is taken into the soil where the conditions favor the development of the spores. In burying carcasses a useful precaution is to cover them with quicklime.

Where the bodies are burned instead of buried, great care should be taken to see that the operation is thoroughly done. Even the earth upon which the carcass has lain should be thoroughly and deeply burned over so that the heat will penetrate to a depth sufficient to kill the germs that may have passed into the soil with fluids from the body.

PRELIMINARY PROGRAM

Of the 44th Annual Meeting of the Florida Medical Association.

To be held at Atlantic Beach May 18th and 19th.

FRIDAY, MAY 18TH, 11 A. M.

Called to order by the President, E. W. Warren, M. D., Palatka.
Invocation, Rev. Milton R. Worsham, Jacksonville.
Report of Executive Committee, R. H. McGinnis, M. D., Chairman, Jacksonville.
Report of Secretary.
Report of Treasurer.
Report of Secretary-Editor, Graham E. Henson, M. D., Jacksonville.
Reports of Councillors.
Organization of the House of Delegates.

2 P. M.—Scientific Program.

1. Appendical Abscess, Its Treatment and Comparative Frequency in Small Towns and Rural Districts, N. A. Baltzell, Marianna.
2. Advantage of the Proper Handling of Acute Appendicitis, Edward Jelks, Jacksonville.
3. Cancer, F. F. Ferris, Apalachicola.
4. Gall-Stone Disease, John E. Boyd, Jacksonville.
5. Factors in the Union and Use of Traction Suture Plates in Abdominal Incisions, R. R. Kime, Lakeland.
6. The Early Diagnosis and Home Treatment of Tuberculosis, R. H. McGinnis, Jacksonville.
7. Segregation and Public Sanitariums for Tuberculosis, C. B. McKinnon, DeFuniak Springs.
8. Prevalence of the Bacillus of Tuberculosis in Specimens Examined for Animal Parasites, Harold H. Fox, Tallahassee.
9. Creeping Eruption, J. L. Kirby-Smith, Jacksonville.
10. Organization Work of the Committee of American Physicians on Medical Preparedness, Carey P. Rogers, Jacksonville.
11. Roentgen Diagnosis of the Gastro-Intestinal Tract, L. W. Cunningham, Jacksonville.

5 P. M.

Meeting of the House of Delegates. (Subsequent meetings of the House of Delegates to be announced by the Chair.)

8 P. M.

Diagnosis and Prognosis of Gastric Duodenal Ulcers (Illustrated with lantern slides), Seale Harris, M. D., Birmingham, Ala.
President's Address, E. W. Warren, Palatka.
....., Hiram Byrd, Princeton.

SATURDAY, MAY 19TH, 9 A. M.

Scientific Program.

12. The Value of Fresh Cow's Milk in Infant Feeding, as Compared With Artificial and Sterilized Milk, J. G. DuPuis, Lemon City.
13. A Few Points in the Treatment of Chronic Gonorrhœa, H. A. Mills, Jacksonville.
14. Our Neglect of Scientific Massage and the Reason Osteopaths and Chiropractors Exist, F. J. Walter, Daytona.
15. Volkman's Contracture, J. Knox Simpson, Jacksonville.
16. Calculus Anuria: Report of a Case, With Operation, H. A. Peyton, Jacksonville.
17. Focal Infections, Julian Gammon, Jacksonville.
18. Nervous Diseases and Why We Have Them, James H. Randolph, Jacksonville.
19. The Responsibility of the General Practitioner to the Mentally Defective, George B. Coon, Tampa.
20. Some remarks on the Treatment of Dementia Praecox, Ralph N. Greene, Jacksonville.

12 M.

Election of officers.

2 P. M.—Scientific Program.

21. The Indications and Abuse of Cesarian Operations, F. J. Waas, Jacksonville.
22. Blood Pressure, James V. Freeman, Jacksonville.
23. Post Operative Phlebitis, Frederick J. Bowen, Jacksonville.
24. Autogenous Vaccines, Henry Hanson, Jacksonville.
25. Operative Treatment of Uterine Prolapse, G. R. Holden, Jacksonville.
26. The Sigmoid, Marvin Smith, Jacksonville.
27. The Venereal Disease Problem, E. G. Birge, Jacksonville.
28. The Treatment of So-Called Parasyphilitic Diseases, John P. Long, Lake City.
29. Prophylaxis of Syphilis of the Central Nervous System, Graham E. Henson, Jacksonville.

NATIONAL CONFERENCE OF CHARITIES AND CORRECTION.

A realization of the importance of health seems to have spread through the program of the National Conference of Charities and Correction like an infection. The outline of discussions at the forty-fourth annual meeting of the organization, to be held at Pittsburgh, June 6-13, has just been issued from the permanent office at Chicago. The division on health will be under the chairmanship of Professor C. E. A. Winslow, of Yale University, and the vice chairmanship of Dr. H. M. Bracken, secretary of the Minnesota State Board of Health.

The modern public health program will be featured by the chairman in his address. This idea seems to characterize also the discussions scheduled to occur at four other meetings under his direction. "What the Social Worker Has Done for Public Health" will be the topic of Homer Folks, of New York, a former president of the National Conference.

The campaign against infant mortality will be brought to the attention of the conference by Miss Julia C. Lathrop, of the Federal Children's Bureau, and Dr. Charles E. Terry, late health officer of Jacksonville, Fla. Professor Graham Lusk, of Cornell University Medical College, will speak on hygiene and economy in diet. Coordination of health activities appears prominently in the program outline. Three phases will be presented, respectively, by Franz Schneider, Jr., and Gertrude Seymour, of New York, and Wilbur C. Phillips, of Washington; the apportionment of the health budget, the relation between social workers and public officials and the health center plan. Another session will be devoted to public health nursing.

"The United States is the only great industrial nation without compulsory health insurance," Professor Irving Fisher has said recently. In view of this need, the National Conference has provided an entire division on the subject of social insurance for its meetings at Pittsburgh. The chairman of this series of discussions is Max Senior, of Cincinnati. The program has been arranged to occur the latter part of the conference period so as to accommodate medical men who attend the meeting of the American Medical Association in New York.

The section on mental hygiene will convene under the chairmanship of Dr. Owen Copp, of Philadelphia. His speakers include Dr. Stuart Paton, of Princeton; Dr. E. E. Southard and Dr. Harry C. Solomon, of Boston; Dr. C. Macfie Campbell, of Johns Hopkins University; Dr. A. J. Rosanoff, of New York, and Dr. E. Bosworth McCreary, of Pittsburgh.

In other divisions of this extensive program there will occur discussions of illegitimacy, of diagnosis of crime, of state aid to dependent mothers and of Negro migration to Northern cities. There will be separate meetings of groups interested in hospital social service, in social hygiene, and in anti-tuberculosis work. It is likely also that a special housing institute will be held.

The conference at Pittsburgh will continue for one week. Thirty-five hundred delegates are expected to attend. The president is Frederic Almy, secretary of the Charity Organization Society of Buffalo. The prevention of human distress through the operation of all sorts of agencies has been adopted as the main topic of the meeting.

NEW AND NONOFFICIAL REMEDIES.

Quinine Injection.—By taking proper precautions the number of cases of abscess formation and necrosis from the injection of quinine may be greatly reduced, but the danger of their occurrence can not be entirely eliminated. For this reason all authorities agree that the administration of quinine by injection should be confined to the most urgent cases of pernicious malaria. The two most important precautions are, that the injection must be intramuscular and that the solution should be dilute—not stronger than ten per cent. The best salts are quinine dihydrochloride and quinine and urea hydrochloride. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

Publisher's Notes

AN IMPORTANT HYPNOTIC.

That often intractable symptom of nervous disorder, insomnia, suggests the use of Chloretone in preference to hypnotics of the coal-tar series, for the reason that the former is not depressant to the heart and respiration and is not toxic in ordinary therapeutic doses. It produces peaceful slumber closely resembling the natural process, the patient awakening refreshed and rejuvenated. It does not disturb the digestion, produces no objectionable after-effects, and does not cause habit formation.

Administered internally, Chloretone passes unchanged into the circulation and is deposited in considerable quantities in the cerebral tissue, the result being that the patient falls into a profound sleep. It appears to be decomposed within the body, for, volatile as it is, we do not find it in the expired air, nor can it be recognized in the urine.

Chloretone is useful in the treatment of the insomnia of acute mania, periodic mania, senile dementia, the motor excitement of general paresis and alcoholism. It is especially beneficial in controlling sleeplessness due to pain—as in cancer, tabes dorsalis and neuralgias—and to mental strain or worry.

As doubtless most physicians know, Chloretone is a product of the laboratories of Parke, Davis & Co. It is supplied in crystal form—in ounce vials and in capsules of three grains and five grains. Because of its camphoraceous flavor, it is perhaps best to administer it in capsules.

DANGER OF FLY POISONS.

In October, 1914, and February, 1916, we published a cursory statistical report that revealed the number of cases where children had been poisoned from arsenical fly destroyers. We again present a table showing cases reported in the press and collected through the agency of a press clipping bureau this last year.

1916	Total	Fatal	Recov. Doubt.	Recov. Indicat.
March	1		1	
June	1			1
July	11	5	1	5
August	16	3	1	12
September ..	3	2		1
October	4	2		2
	36	12	3	21

The United States Public Health Service has taken cognizance of the dangers of poisonous fly papers. The following is extracted from supplement No. 29 of the Public Health Reports:

"Of other fly poisons mention should be made merely for the purpose of condemnation, of those composed of arsenic. Fatal cases of the poisoning of children through the use of such compounds are far too frequent, and owing to the resemblance of arsenical poisoning to summer diarrhea and cholera infantum, it is believed that the cases reported do not by any means comprise the total. Arsenical fly-destroying devices must therefore be rated as extremely dangerous and should never be used, even if other measures are not at hand."

There seems to be no sufficient reason for permitting the unrestricted sale of arsenical fly destroyers and it would be well if other states followed the lead of Michigan in this and regulated their sale. On request we will be pleased to send to anyone interested a copy of the Michigan law.

The profession must need actively to exercise its educational influence to abolish this evil.—*Journal of Michigan State Medical Society.*

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, May, 1917 Number 11

PRESIDENT E. W. WARREN'S ADDRESS.*

Gentlemen: I wish to thank you all for my election a year ago to the presidency of our Association. It is an honor I did not allow myself to contemplate when I first crossed your threshold fifteen years ago. Little did I dream then that my services would ever be thought of in this capacity. I attended my first meeting of the Association at St. Augustine soon after coming to the State and since that time have missed only two or three meetings, having always looked forward to them with the keenest anticipation. To get entirely away from my patients with their cares and anxieties and relax in friendly intercourse with my neighbors in the profession has been among my greatest pleasures.

In selecting a subject to discuss with you this evening, it has occurred to me to point out some of the ways the Association might increase its usefulness, and more than ever justify its existence.

From my first observations of the activities of the Association I have felt that we have not been alive to our opportunities for the advancement of the best interests of the profession and of our patients. As an organization I do not believe we have asserted ourselves to the fullest extent. Some of my predecessors have caught the vision, but have been handicapped by the surrounding conditions from doing as much as they saw the need of doing. There are numerous things demanding attention by the Association besides our annual meeting and its scientific program. Many medical associations have become great because of the work they have undertaken and carried to success. The American Medical Association, which is the greatest aggregation of medical men in the world, has attained its present proportions because of the courage of its leaders in the work they have undertaken and accomplished. No institution in America outside of the church has done more for the good of the people. Its greatest tasks and most splendid accomplishments have been along the line of making better doctors and of improving the health of the nation. I know of no other institution or organization that has taken as its leading line of work that of reducing the possible earnings of its membership. Its every movement has been of a protecting and benevolent nature. It has carried out more closely than any other institution President Wilson's humanitarian principles. The American Medical Association has provided the machinery for many different kinds of work through committees or councils and the membership of those councils is selected with a view to the special work in hand. They have been with exceedingly few exceptions the statesmen of the profession, men who would have added luster to any line of life's work they may have undertaken. The influence of these men has been felt both in the nation as a whole and in the States. It has influenced the medical services of the army and navy for the betterment of those branches of the government.

Many of the State associations have followed the inspiration and have proudly arisen to the occasion. The associations of New York, Pennsylvania, Illinois, California and many other States and those of the cities of New York and Chicago have many

*Delivered before the forty-fourth annual meeting of the Florida Medical Association, held at Atlantic Beach, May 18, 19, 1917.

victories to their credit. They have seen the need of certain work and have recognized that no one else could do it for them. Had I the time and opportunities, I would like to detail some of the splendid things that have been accomplished by these organizations.

Probably the most mandatory call just now on the Florida Medical Association is for a proper working out of a legislative program for better regulating the practice of medicine in the State. Medical legislation is almost a science within itself in its widest application. It covers almost an unlimited number of subjects. Broadly speaking, it may be divided into public health laws and medical practice acts. Public health laws have for their purpose the conservation of the public health, the collection and dissemination of health educational data and information and the collection of vital statistics. This is accomplished through health boards or bureaus and their immediate function is to protect the people against communicable disease and after that comes the collecting of vital statistics, mortality and morbidity reports, health educational work, sanitary engineering, milk commissions, supervision of medical examination of school children, the transportation and disposal of dead bodies and such other duties as may become apparent from time to time. Medical practice acts have for their purpose the regulation of those who treat the sick individually. Unfortunately our educational system has given us as a whole practically no knowledge of ourselves from a medical standpoint. Beyond purgatives and poultices the average individual knows nothing. Almost every one has a working knowledge of law and most of us constitute ourselves authorities on religion, but in physiology and pathology we are silent. The charlatan coins this ignorance into wealth for himself and you all will agree with me that without restrictive legislation his activities would recognize no limitations. The people delegate to legislatures the power to pass laws protecting them against this result of their ignorance, but there is no subject ever coming before legislatures about which there is more controversy and more uncertainty in the mind of the legislator. This subject has had considerable work done at the hands of our Association in the past few years and will eventually be satisfactorily worked out. At present we have about the poorest medical practice act of any State in the country and to get better laws on the subject will take the cooperation of the whole profession. We must take into consideration that a comprehensive medical practice act that will protect the people against the ever-present faker and charlatan will always have the bitterest antagonism of those people. We have also to remember that those people are very capable in interpreting the uncertainty of the legislature and make a fight that it will take our very best resources to overcome. Many men already licensed to practice medicine find in the bill usually something that is inimical to their special methods of practice and fight the bill, which ought to have their support. In order to succeed we must be able to give the legislature good and sufficient reasons for our attitude.

Another one of our duties is that of informing the people of the pitfalls prepared for them by the shrewd and designing advertisers of cures for the various diseases afflicting humanity. Any statement by the man with something to sell will be believed by the majority of those who hear or read it. The more flagrant and really impossible the promise made the more anxiously the people accept it. The sick person wants promises to cure. He assumes that these promises arise from sincerity. We doctors are always wondering at the obtuseness of the public in buying patent medicines and believing in them, but how much have we done to enlighten them? We sit snugly in our offices and read exposures of patent medicines and appliances, forgetting all along that the public never sees those articles. They are rarely ever published except

in medical journals and a few courageous magazines. We make no move to furnish that information to our patients. On the other hand we are ready to scold when we find them calling for the usual home remedies at the cross-roads grocery store. We read eagerly every word of evidence for and against in a trial in Chicago a few months ago in a suit for damage concerning a famous old fraud well known to the women of the country. We expected the sale of this stuff to stop, little thinking that the only information the public ever received of that famous trial was furnished in garbled form by the manufacturers of the medicine. We dismiss the subject usually by saying "the people like to be fooled." I take issue with that statement emphatically. The people are searching for the truth and it is for us to furnish it to them in a convincing manner. Do we like to admit that the man with total disregard for truth and honesty is more convincing than we could be with equal effort. If a method can be worked out and adopted whereby this information can be furnished to the public we will have done a great service.

The duty the medical profession is performing most righteously is that to our soldiers. I am tempted to say we are fighting the battles of the world today. We are being called upon to protect our soldiers from enemies more insidious and more to be dreaded than those in the trenches of the opposing army. Congress recognized our value to the government recently when more doctors per capita were provided for the government services than ever before. It was realized that the effective soldier is the healthy, strong fellow free from the unfortunate conditions that prevailed in some instances in the Spanish-American war. Who among us cannot recall the number of boys from our homes that were brought back in coffins with the report that they died of typhoid fever. The medical men are the beginning and the end, practically speaking, of the soldier. We first make the physical examination that determines his fitness to become a soldier, we shield him from every possible danger to his health and except in actual battle we are with him at his death.

We have recently been instrumental in adding a new element of protection to the soldier, when we convinced the War Department that continence in the soldier is compatible with good health and that good morals are as desirable in the government as elsewhere. As a result an order has been issued, I am informed, creating a zone around camp sites designed to protect the soldiers from the most insidious and inexcusable of all the contagious diseases. This corrects the former absurd situation whereby we sought men for the army or navy who were not only free of these diseases but of all other diseases or physical deformities or weaknesses and then immediately after enlistment withdrew every precaution against the contraction of veneral disease while continuing to offer him protection against all others. No one knows so well as the physician the unavoidable and unfortunate train of distressing sequelæ of gonorrhœa and syphilis, and still we have done little to quarantine against either of them. We look with horror on smallpox, but with our present methods of control the harm it does is not to be compared with that of syphilis.

Another subject of prime importance is now demanding our most thoughtful consideration, that of compulsory health legislation. The medical profession of Great Britain was unprepared for this innovation and was not well pleased with the treatment accorded them in the bill passed by parliament. Unless we study the subject and learn just what our dues are and demand them, no one else will or can. The subject is under consideration in some States now and will before many years be before our legislature. In New York the Mills bill has been up for consideration twice. This bill seeks to commit the State of New York to this plan, but has not made any headway yet. A satisfactory working basis has not yet been

reached. Compulsory health laws bring up one of the most complex problems that has ever come up from our viewpoint. It readjusts our entire relationship to the public and if carefully worked out with fairness to all, it has elements of good in it, not only to the people but to the profession. But I warn you now we will have to be on our guard if we are not to be imposed upon. It is born of an attempt by society to care for its destitute sick instead of leaving it all to the generosity of the physicians. There is no attempt to deny that our profession is unduly burdened in taking care of the charity practice of the world. It has by common consent been thrust upon us by society. The municipality will pay to the civil engineer the splendid compensation demanded by his skill, while it pays its city physician a mere pittance. City authorities will employ an attorney for a special work and pay him an adequate fee, the larger the fee the more cheerfully it is paid provided he is a high-grade lawyer, but it will call a physician in an emergency and instruct him to make his charge at pauper rates. I have found city and county governments among the most insistent in their demands on the physician's charity.

ORIGINAL ARTICLES

BACTERIA IN THE ECONOMY OF NATURE.*

Hiram Byrd, M. D.,

Princeton, Fla.

Mr. President, Ladies and Gentlemen:

Seven years ago I had the honor of delivering the annual oration before this body—an honor great in itself, but doubly great when it comes a second time.

On that occasion I gave an "Appreciation of Louis Pasteur," the man to whom you do homage when you "pasteurize" your baby's milk; the man for whom you offer devout thanks when you give your child the Pasteur treatment; the man who discovered that pebrine and flacherie among silk worms were diseases due to living organisms, that anthrax and chicken cholera and swine erysipelas were biological entities—in fine the man who made modern medicine possible.

But the one great fundamental thing, the one undying heritage that he left the world, and which has meant more than Pasteur vaccination, more than diphtheria antitoxin, was his method of research, his scientific precision, his proof of proof. In a word he taught Science to be scientific. Up to that time little proof was asked beyond the master's word—"He himself said so," *ipse dixit*, was all-sufficient.

Pasteur did not create germs—he didn't even discover them. They had been used before he was born to demonstrate the possibilities of the microscope. But he did turn aside to behold the burning bush. It was he, the master explorer, who said dig here and you will find gold. It was he who made bacteriology.

It would be foreign to the subject I have chosen to deal with these organisms other than in the most general way, and in terms of their most fundamental attributes. And of these, perhaps the most astounding, at least to the novice, are their infinite smallness, and their infinitude of numbers. The geologist deals with unthinkable stretches of time. The crust of the earth he tells us is anywhere from twenty to two hundred and forty million years old. If we endeavor to grasp the meaning of that we think back to the time when America was discovered, some four hundred years ago, and back to the birth of Christ, and back and back as far as we have any authentic records—back to the civilization of the valleys of the Nile and the Euphrates, and still on back and back till history is lost in myth, till the mind refuses to go further, and still we have not covered

*Oration delivered before the forty-fourth annual meeting of the Florida Medical Association, at Atlantic Beach, May 18, 19, 1917.

the newest phase of the last geological age.

The astronomer has, if possible, a still more wonderful tale. He tells us of the great distances that traverse the limitless sky. Tells us that light moves at the astounding rate of 180,000 miles a second, and with the next breath tells us that our nearest fixed star is so far away that its light is three years reaching us! Tells us of a realm where distances are so great that the foot rule used for measuring them is the distance that light travels in a year. Who can think in terms of such freedom of space!

But if the geologist and the astronomer have wonderful tales, no less so is the story the bacteriologist has to tell us of the world of little things. He tells us of living things that are as small as celestial distances are great. Tells us of plants that under the microscope look like little lead pencils cut in inch lengths, and which are so minute that it takes 10,000 of them laid end to end, 80,000 of them side by side to measure an inch. Tells us of organisms so small that a mass the size of a drop of water would give every man, woman and child of every race in the world one plant each, and then have some to spare. It is absolutely unthinkable, is such littleness of stature, such infinitude of numbers. And yet, it is these very characteristics, together with their universal distribution, in the soil, and in the sea, that enable bacteria to perform their most fundamental function, which has to do with the building up and the tearing down of the protein molecule.

I use the term protein molecule to include the molecular components of all living matter. As two atoms of hydrogen and one of oxygen combine to form the molecule of water, so a certain number of atoms of carbon, hydrogen, oxygen and nitrogen combine to form the protein molecule. It is not the same as the cell—that is made of many molecules. Nor is the protein molecule of one substance the same as that of another—the protein molecule of wheat is different from that of corn, and that of animals different from that of plants, and that of one species of animal or plant different from that of another. But differing as they do, they all have one attribute in common—they all contain the four elements above mentioned; many contain others, but all contain these. When a plant or animal takes food that simply means that it is taking the materials and recombining them to form its own protein molecule and incorporating them into its own being. And when a plant or animal sends forth offspring into the world, that simply means that another cell or aggregation of cells has been turned loose to deal with protein molecules. The finest distinction that has yet been drawn between plants and animals rests upon the protein molecule. In a general way, the plants build up this molecule of raw material, injecting the necessary binding energy into it—energy received from the heat and light of the sun, while animals rearrange the molecule to suit their own needs, and in doing so, extract from it sufficient energy for their own vital processes.

For green plants to supply their carbon, hydrogen and oxygen needs is a relatively simple matter, and will not be discussed here. But not so nitrogen. Here indeed is a serious problem. Not that nitrogen is scarce in the world—far from it. Indeed nitrogen is one of the most abundant of all substances. Aside from the natural deposits in the form of nitrates, and aside from the nitrogen bound up in every animal and vegetable cell, 79 per cent of the atmospheric air is nitrogen—enough to exert a nitrogen pressure of nearly thirteen pounds to the square inch. So I say it is not its scarcity that makes the nitrogen problem, but the fact that nitrogen is not usable in the gaseous form—has not yet had any energy injected into it, as the physicists say, it is in stable equilibrium. Before the nitrogen gas with which the air is laden can be made available for plant food, for the higher plants it must be combined with other chemical substances, into nitrogen salts, as sodium, potassium, or calci-

um nitrate. It is not the amount of nitrogen in the world that counts, but the amount of *combined* nitrogen, the amount of nitrogen salts. The world would die of nitrogen hunger in the presence of a nitrogen pressure of thirteen pounds to the square inch.

Now since the amount of combined nitrogen in the world is limited, and since every living being has to have a certain amount, it follows that plants and animals are often put to it to supply their nitrogen needs. In fact the struggle for existence is not much more, not much less, than the struggle for nitrogen. The supply of combined nitrogen is not only limited, but even that is always leaking away, falling back into the free state. For nitrogen is at once hard to combine, and easy to set free, and the agencies setting it free are operating on a tremendous scale. When an animal dies, we say it decays. By that we understand that the protein molecules are attacked by bacterial or fungous agents of decay, and split into simpler molecules, and these in turn are acted upon by yet others of the ordered army of microorganisms until they are finally reduced to ammonia and nitrogen. The nitrogen leaks away into the atmosphere and contributes to the 79 per cent of gas in the air. The ammonia may leak away also, or it may become fixed in the soil by the agency of certain nitrifying bacteria. These bacteria convert the ammonia into nitrates, and the nitrates so formed become available to the roots of green plants. On the other hand the nitrates of the soil under certain conditions are converted into ammonia, and leak away into the atmosphere. The constant leakage of nitrogen from the combined to the gaseous form results in a nitrogen shortage for the plant world, and since animals depend upon plants for their supply of nitrogenous food, this shortage does not stop with the plants, but reaches the animal world as well. We may thus speak of the problem which besets all living things as the nitrogen problem.

And of all the world there is only one group of organisms that has solved the nitrogen problem in a basically satisfactory manner. As much as I would like to say it, it is not man. This solution has been achieved by that lowly group of plants—the nitrifying bacteria. These organisms which occur in the soil and in the sea, have the power of causing free nitrogen to enter into combination with other elements, and so serve as material for the construction of the protein molecule.

The leguminous plants have solved the nitrogen problem in a way. That is to say they have contracted with the bacteria to do it for them. What the legumes furnish the bacteria in return for the nitrogen that they receive is not to be discussed here—suffice it that it is done on a large scale. Under the stimulus of these bacteria, the roots of legumes swell to form nodules. Later when these root nodules are full of nitrogen which has been combined by the bacteria, then the tissues of the root destroy the nodules, raid their stores of nitrogen plunder, and live and thrive in soils that have little or no nitrates. Thus says Keeble: "The gorse occupies large tracts of sterile waste in Brittany and elsewhere, and the traveler in spring may journey for miles between tree-like groves of gorse, ablaze with golden blossom, every particle of which owes its presence in the air to the nitrogen-fixing bacteria that work in its roots underground." These bacteria it is which have provided the essential organic nitrogen compounds without which the tissues of the flowers could not have been formed. Large tracts of waste land in Germany have been made amenable to cultivation by planting to lupines. In this country velvet beans, peas, beggar weeds, vetch and clover are our chief plants that combine with nitrifying bacteria.

Man has partially succeeded in solving the nitrogen problem in two ways. He has learned to take advantage of the combination of bacteria and legumes, and by crop rotation adds large quantities of nitrogen to the soil. In Germany it has been estimated

by competent authorities that no less than a half billion pounds of nitrogen are added annually to the soil this way. But also where power is cheap, he has succeeded in combining the nitrogen of the air with calcium, forming calcium nitrate. The combination is effected by means of electrical energy. This is carried on in Germany on a commercial scale. But at best this will always be supplementary to the work of bacteria.

Every farmer knows from sad experience what the leeching of soil means. It means that his costly fertilizer, his nitrates, dissolve in the rain, and seep down into the ground, or wash away to the creek and join with the waters of the river on their way to the sea. Every stream that flows carries its burden of precious nitrates seaward. Some authority, I know not who, has estimated the amount of combined nitrogen that reaches the Gulf of Mexico every year through the Mississippi river. It is unbelievable. But why, you will ask, does not all the nitrates eventually find their way to the ocean? The answer is not far to seek. Plants grow there as here. Nitrates function in the sea as on the land. And while there is a current of nitrogen constantly flowing from land to sea, there is also a current flowing from sea to land. Our sea foods, and kelp, and other organic matters brought to land form a current of combined nitrogen, but that is of small moment compared to the current that is set free in the sea—set free by bacterial action to join the 79 per cent of the nitrogen of the air, thence to flow over the land and again be harnessed into action by the bacteria of the soil.

These are large thoughts, but over and above them is yet a larger one, still within human grasp. The third planet out from the sun, which astronomers call the earth, has its seven seas filled with many kinds of fishes, and on its lands grow great forests of mighty trees, and myriads of insects feed upon the leaves, and birds fill the air with song. But this has not been always thus. Time was when that planet was new and hot from the furnace of the Maker. Wrapped in clouds of vapor, which the fierce rays of the sun could hardly pierce, semi-darkness brooded upon its surface. And there was no living thing.

But gradually the heat of that planet was lost by radiation, and the waters cooled, and the vapors fell as rain, and the land and seas were divided.

And then at some point, sometime, there was a little stir among the atoms, as though one were changing its position with reference to its neighbor atom. And lo! Life was upon the earth. From whence it came, and how, what matters? But its mission was to produce "life more abundant." And in that primal spark was bound up all the potentialities of the rugged oak, and the delicate orchid; the mighty sequoia of the western forest, and the tiny mushroom that grows at its feet; all of the potentialities of the great bald eagle screaming above the sea and the sluggish oyster helplessly chained to its rocks. Of all wonders that man has been able to contemplate that first little spark is the most wonderful. To have bound up in itself, small as it was the potentiality of becoming a plant, yea thousands of plants, of thousands of species, genera, families, orders, the vegetable kingdom, with all that it means; and at the same time the potentiality of becoming an animal kingdom, with complex forms and habits, its laws and tendencies, its parallels and antagonisms—not only all of these, but it must have been bursting with impatient impulse to split up its antagonisms and set them free. For instance it had a tendency to move and a tendency to keep still, a pair of antagonisms these, which could not develop in the same individual, hence it was necessary to divide, this one developing locomotion and becoming the progenitor of the animal, that one developing stability and becoming the progenitor of the vegetable world. Wherever there was a pair of antagonistic tendencies, there was a splitting up, each to go its own way untrammeled by the other.

And thus began that mighty climb through the ages which we call evolution; that interminable task of splitting up all of these inherent tendencies. I may add by way of parenthesis that according to the view of that matchless thinker, Henri Bergson, the first great split was upon the basis of locomotion, one to develop a nutrition system in which food is brought to it, plants we call them; the other to develop a system by which it goes in search of food, animals they. And then the animal line split again upon the basis of intellect and instinct, the latter choosing as its line of evolution insects, while the former chose as its habitat the line that culminates in man. And today the three great apices of organic evolution are reached in the flowering plants, the social hymenoptera, in which the colony forms the unit of life and man.

But it must not be inferred that this climb was as simple as it seems in the telling. Animals, plants, have lagged behind in the procession. Intermediate forms we call them. Others have halted and marked time. This is the biological status of the bacteria. Others have even turned back, resulting in such retrograde forms as fungi and parasites. Many paths have been followed a way and then abandoned—we know such by extinct fossil remains that have no living counterpart. But—and this is a hard thought to express—some, headed toward these three apices, have steadily climbed higher and higher; are still climbing, but where? Who can say? It may be likened to the building of the Panama Canal. In the construction of that waterway, railroads, houses, villages were built in the Chagres River Valley—even in the river bed itself. And what is more, they were built there with the full knowledge that they would serve their turn and then be torn out and built anew higher up the hill, and up and up till the structure was completed. In working out the scheme of organic evolution, the same nitrogen must be used over and over again. Plants, animals grow up and die and disintegrate, and the components of their bodies are again incorporated into the bodies of other plants, animals. Life is the great organizer, the great architect, while the bacteria are the artizans the builders that build up bodies and then tear them down and build them up again, and every time they are torn down and built anew they are built a little higher up the river brink.

In this day when we are threatened with railroad strikes, and when the submarine menace threatens our very national existence, the one great problem of man, beside which all others pale into insignificance, is the problem of transportation—the one of transporting soldiers, munitions of war, but above all of food supplies. In such times we are moved to admire the perfect scheme of transportation adopted by organic evolution. A scheme that has been in operation since life began on earth, has moved steadily without a tremor, without a halt and will continue till evolution ceases. Again it is the bacteria. A bird's-eye glance over the world will reveal great barren spots in one place, and in another jungles, and all complicated by a gigantic irrigation system which is constantly washing the combined nitrogen into the sea, all of which means excess of nitrates here, deficit there. But permeating the whole is the bacterial system of transportation, by means of which nitrates that are unusable here are released into the air as nitrogen gas, to be recombined there where needed. The nitrates released in the sea flow over the bean fields where nitrifying bacteria recapture them to rehabilitate the soil. A rotting heap of compost in China may ultimately make the clover blossom in America, a sultan transformed make fertile the peasant's plot.

Here, too, is a rational interpretation of disease and death. If the great scheme of organic evolution is to have life more abundant, then the three things required of every living being are first to let environment do what it will, what it can, with the individual; and then to produce offspring that will have

the combined characteristics that parental environment and heredity give it; and lastly to yield up its own body that the contained nitrogen may go back to the vital circulation, that evolution may climb higher and higher. Now when a plant or animal has reached maturity, and sent forth offspring into the world so that environment and heredity have had the chance to do their perfect work, then it has reached the last lap of its journey and the bacteria, as if by instinct, are already lying in wait to tear it to pieces, to set its nitrogen free for further use. If William Osler would recommend chloroform after sixty, no wonder these bacteria become impatient with waiting! No wonder they congregate round every living being waiting the final signal! No wonder some of them sally forth to hurry the signal along! And when environment or heredity has produced a puny specimen, not suited to carry on this great work of evolution, no wonder a group of bacteria is despatched to tear it down that its valuable nitrates may be used by those more fit! And thus, I had almost said that bacteria contribute to the survival of the fittest—more than that, they make the fittest to survive, by hastening the demise of the unfit.

A few years ago a prehistoric mammoth was found buried in the snow in Northern Siberia. Frozen there for centuries perhaps, it could not decay, that is to say bacteria could not act upon it. It was in such a state of preservation that its flesh was used to feed the dogs. For some centuries, at least all the combined nitrogen in that body had been tied up.

Now let us suppose that some world-wide cataclysm should in some way destroy or render inactive all the bacteria of the world. Then when an animal died, he would lie there in a state of preservation—embalmed, so to speak. (Indeed embalming is nothing but infiltrating the body with such chemicals as will prevent bacterial action.) Then once a bit of nitrogen found its way into a plant or an animal, then would it remain tied up forever, as completely drawn out of the circulation as if it did not exist. Even the soil that we ordinarily call rich would refuse to yield its crops, for that too depends upon bacterial action. In the rich glades of South Florida thousands of carloads of tomatoes and other vegetables are produced every year. But these glades, submersed as they are during the rainy season, are nearly free from bacteria. It matters not then how rich nor how much commercial fertilizer is used they would yield no crops if the soil were not artificially stocked with bacteria each season. This the farmers do by adding a bit of compost to each plant, and then those vast tracts in which the great blue heron wades during the rainy season, furnish the nation with salad during the dry season. So I say that if some great cataclysm destroyed all the bacteria, then decay would cease, and so would growth. The crops of the field would turn yellow, and then wither; the grass would no longer feed the cattle, and famine would stalk forth in the land. The fish would die in the sea, and the waves would wash them ashore, and the sun would crisp their shrunken bodies; there would be no decay, no more foul odor in all the world, neither would the fragrance of the violet be perceived again; herbivorous animals would fall by the wayside, and the carnivora would devour their carcasses, while they in turn would fall at the drinking places. Spring would come, but it would bring no green, nor autumn any gorgeous foliage; the trees would die, but they could not rot; their leafless forms would stand like gravestones marking their own dead past.

Such the importance of bacteria in the economy of nature! Such the dependence of the infinitely great upon the infinitely small! Such the vision of the poet-friend of Darwin:

> Flower in the crannied wall,
> I pluck you out of the crannies,
> I hold you here, root and all, in my hand
> Little flower—but if I could understand
> What you are, root and all, and all in all,
> I should know what God and man is.

Such the vast and coherent phenomena that will forever link the name of Tennyson with Darwin and Pasteur:

> I held it truth with him who sings
> To one clear harp of divers tones
> That men may rise on stepping stones
> Of their dead selves to higher things.

THE EARLY DIAGNOSIS AND HOME TREATMENT OF PULMONARY TUBERCULOSIS.*

R. H. McGinnis, M. D.,

Jacksonville, Fla.

It is estimated, and the estimate is probably correct, that every person at some time of life becomes infected with tuberculosis and that the infection occurs in the majority of cases in early childhood either through the respiratory or intestinal tracts. Implanting itself in some glandular substance, it either becomes active and invades distant tissue or, because of natural resistance of the individual, remains passive until some devitalizing force breaks down the barrier of resistance. Bearing these facts in mind, the medical man should exclude tuberculosis in every patient examined, or prescribed for, before making a diagnosis. A diagnosis of early tuberculosis requires two or more observations and examinations and should be insisted upon when it is suspected.

History: A definite and complete history of the patient's past illnesses and present complaint, including environments, possible exposure, family predisposition and habits, offers good and valuable data toward a diagnosis. If it develops from such a history, a patient has recent loss of weight and appetite, lassitude and a tired feeling on arising in the morning, shortness of breath on exertion, lack of energy and application, chilliness or feverishness in afternoon, cough, or slight clearing of the throat in early morning, with or without expectoration, night sweats and pain in chest. With this array of symptoms, or only a few of them, and the pulse rate is increased and there is slight elevation of temperature in the afternoon and heart and kidney disease can be excluded, the chances are that the patient has tuberculosis. With this information and an impaired respiratory murmur is elicited and some crackling rales are heard in the upper portion or definite areas of the lungs, a diagnosis of tuberculosis can be made with almost certainty. If there is still some doubt about the diagnosis, the employment of the X-rays is suggested as a valuable aid and recently a complement fixation test has been perfected which is extremely accurate and which promises to afford very definite information.

The diagnostitian must be very alert and resourceful in order to detect the disease early. The tubercular are always hopeful and will mislead the doctor by ambiguous and false statements relative to symptoms. They hope they do not have the disease, hope the doctor can not find evidences of it, and if he does, hope for a speedy restoration.

Home Treatment: The success of home or any other treatment depends entirely upon discovering the disease in its early development. As 75 per cent or more of the tubercular are among the poor or laboring classes, with moderate or insufficient means of support, with a family of wife and several children, the advisability here of home treatment is doubtful. People in such condition and under such circumstances are usually ignorant of health conservation, hygiene and sanitation, are of unclean habits, and measured by standards of wholesome living, incapable of thorough and efficient cooperation to justify the attempt of home treatment.

An Illustration: A man, a wage-earner, with a wife and four small children, becomes incapacitated from tuberculosis; his savings, if he is frugal, maintains the family with food, clothing and shelter for a time; he is

---

*Read before the forty-fourth annual meeting of the Florida Medical Association, at Atlantic Beach, May 18, 19, 1917.

attended by his faithful wife and the children play about the room and bed of the invalid; the house in which they live is small, the entire family living and sleeping in two or three rooms; the patient is careless in coughing, sneezing and spitting, and so on and so on. No need to complete the picture. Every physician has viewed it time and time again. The doctor may call often, the visiting nurse, or other charitably inclined person, frequently, all offering the best of advice for the care of the patient, leaving literature dealing with disposal of sputa and other excretions, personal cleanliness, hygiene and sanitation. With such a program carried out with the best of effort and sincerity, there is a doubt, in my opinion, if any progress is made, either in the restoration of the patient or the prevention of the spread of the disease to the other members of the household. If the mother and not the father is the victim of the disease, the problem is more serious.

Are such homes to be broken up, the members of the family separated for a time and cared for until the focus of infection is eliminated? Sentimentality says no; science says yes. If progress is to be made in the prevention of tuberculosis, the focus of infection must be controlled. In my opinion it can not be controlled in the squalid, insanitary surroundings of the average cottage home, if the subject of the disease is liberating tubercle bacilli in his sputum.

In the homes of the middle class the care and attention of the tubercular sick will devolve upon a member and possibly two members of the family. This will lessen the finances necessary to maintain the family and home, lessen the means of obtaining the best of food and surroundings for the victim, and expose the caretaking members of the home to continued chances of contracting the disease.

In this class, also, the sanatorium, or preventorium, which is a better term, removes the focus of infection, relieves in a measure the anxiety of the family, and returns the attendant or attendants on the sick to lucrative pursuits. In this class of cases the family could cooperate with preventorium authorities, bearing a portion of the expenses necessary to maintain the patient in suitable environments and surroundings. In such a division of the responsibilities the family and county or State will share, and both be mutually benefited, at the same time offering the patient the best chance for restoration to health and productiveness.

Home treatment for the well-to-do is a simple matter and resolves itself into expenditure of money to place the patient in proper surroundings and the providing of proper food and care. However, the rich seek sanatoria treatment, as they find it preferable.

THE LEADING AND MISLEADING SYMPTOMS OF KIDNEY STONES.

E. P. Merritt, M. D.,

Atlanta, Ga.

The leading symptoms of renal calculi are pains in the region of the kidney which radiate forward and inward to the inguinal region, pains in the lumbar region rarely reflected to the lower limbs, renal colic, and even hematuria or pyuria. As a rule this clear picture contains the diagnosis outline.

The misleading symptoms which often occur with renal calculi are apt to be confused with those of cholycystitis, appendicitis, lumbago and pyelitis. This as a rule applies to the long standing cases especially where the symptoms are confined to the right side. Lately I have seen several cases where the symptoms were confusing, and it was difficult to decide whether they arose in the kidney or the gall bladder. Even the X-ray might not be absolutely definite, though usually it shows renal calculi plainly.

The method I pursue in reaching a diagnosis in such a case is to catheterize both kidneys, draw specimens from ½ to 1 hour with an iron oxide catheter in the right kid-

Plate No. 1.

X-ray picture with iron-oxide catheter up to pelvis of kidney. This stone is very small and gave great deal of pain. Some are many times this size and give very little pain.

ney or up to the pelvis, and then have an X-ray taken and note what position the pelvic shadow is in relation to the catheter shadow, and then inject into the pelvis of the kidney a 15-percent solution of thorium nitrate. By comparing the original suspected stone shadow with the thorium shadow along with the urinary findings from the side examined, we are enabled to reach the conclusion.

Some cases of gallstones simulate renal calculi so closely that we are sometimes at a loss to differentiate sharply, especially when there is no jaundice and no bile in the urine. The appendix may point upward, and be not far from the right kidney, particularly if the right kidney be posted. A pain in the right iliac region even at McBurney's point does not necessarily mean appendicitis. On the other hand, appendicitis is more common than renal calculi, but renal stones have been diagnosed as appendicitis. Indeed, the pain of a renal calculus may be referred to the area of McBurney's point where the ureter tips over the brim of the pelvis.

In long-standing cases of renal calculi there may be a disturbance in the region of the appendix, the reflex gastric disturbance and general intestinal pains. The contrary condition may exist, and appendicitis be diagnosed as a renal calculus, particularly when the appendix points upward.

The key to the diagnosis is the X-ray and the urinary findings. Leukocytosis may exist with appendicitis and with renal calculi, and pyuria may exist with renal calculi, without renal calculi or acute appendicitis may occur in the course of a pyuria. Careful history, careful examination, with persistent use of the laboratory usually solve the problem. A renal calculus has time after time been diagnosed as lumbago, whereas the real

Plate No. 2.

Plate No. 3.

X-ray picture of case differential diagnosis between gall-bladder stones and renal stones. This case was very misleading. The symptoms pointed to both, but to neither one enough to make differential diagnosis.

The pelvis of the kidney is injected with 6 cc. 15 per cent thorium nitrate solution. The stones can readily be seen below the pelvis. A correct diagnosis was immediately made of gallstones.

source of the pain was the kidney; and where either a renal calculus or a pyelitis, or both exist, we will often take the patient's diagnosis of a lumbago without further more careful examinations. Once I took the patient's diagnosis of a lumbago, whereas the real trouble was ureteral calculus. A professional friend later had the patient under his care and cured the lumbago by removing the ureteral stone. Since then I have been more careful. Indeed, renal calculus or a ureteral calculus may give the typical symptoms of a lumbago.

Unless the X-ray shows the renal calculus, the kidney findings are essential and necessary. Pyelitis, pyonephrosis and tubercular kidney are to be taken into consideration. The X-ray may not show certain stones such as a pure urate stone or a pure uric acid stone, but these are relatively rare as they are usually mixed with the phosphates or the oxalates.

It often requires considerable judgment after a renal calculus is diagnosed to decide whether to remove the stone or the kidney. This should, if possible, be decided before the patient is operated upon. Catheterizing the ureters and examining the urine separately from each kidney, followed by a functional test, gives a definite idea of the involvement and functional capacity of the kidney in question. If the affected kidney has a low phenosulphonepthalein test with low urea, there is evidence in favor of nephrectomy, provided the opposite kidney is normal or nearly so. The subject shows how necessary it is to study each case individually, and that frequently it takes X-ray ureteral studies and much clear judgment not only to make the correct diagnosis but to decide what is best for the patient after the diagnosis is made.

THE DIAGNOSIS AND TREATMENT OF INCIPIENT SENILE CATARACT.

W. Herbert Adams, M. D., D. O. (Oxford),

Jacksonville, Fla.

The diagnosis of the incipient stage of senile cataract is not such a simple and easy matter as it is generally supposed to be; indeed, without the intelligent use of the ophthalmoscope it is often absolutely impossible to definitely determine whether the lens is becoming cataractous or not. The grayish color of the pupil, often seen in elderly people, has led many superficial observers to make a diagnosis of cataract where there was none, and sometimes to make the fatal mistake of diagnosing a chronic glaucoma as cataract, with the advice to the patient "to wait until the cataract was ripe to have it operated on." Many such patients have presented themselves to oculists for an operation for

cataract, only to learn that they were hopelessly blind from a disease which might have been alleviated, if recognized and treated at an earlier stage.

The principle symptoms of incipient cataract are as follows: Alteration of vision. Patients may first notice that their glasses do not suit them, that they are too strong, or that they can discard them, and read fine print without them, and claim that they are getting their "second sight"; they, therefore, think that their eyesight is improving, but that this is not the case can generally be proven by a careful test of their distance vision. They have simply become myopic on account of the swelling or increased density of the lens. If a cataract is of the nuclear or diffuse type, they will soon complain of things looking hazy or foggy to them, and will be constantly wiping their eyes and glasses to remove the dust they think is the cause of their foggy vision; they will often complain of a feeling of grit or sand in their eyes, which is due to a conjunctivitis set up by the constant strain of their eyes in the endeavor to get clear vision. They may, also, complain of browache caused by increased tension, owing to the swelling of the lens. The nuclear or diffuse form, also, occasionally gives rise to halos around lights. I have recently seen such a case. When the patient described her symptoms, I jumped to the conclusion that she was suffering from glaucoma, but, when after a careful examination, I found a small and freely movable pupil, an absolutely transparent cornea, and a carefully-made tonometer test showed an absolutely normal tension, and when the ophthalmoscope showed a beginning diffuse capacity of the lens, I had to change my diagnosis to cataract instead of glaucoma.

If a cataract is of the peripheral variety, where the opacities are generally sector-shaped spicules, the patient may complain of monocular diplopia or polyopia, due, it is supposed, to irregular lenticular astygmatism. This form may not seriously interfere with vision until comparatively far advanced, that is until the points of the opacities have invaded the pupilliary area. Patients with this form of cataract will see better in a bright light because the pupil is then smaller, and the opacities do not come in the direct line of vision; patients with the nuclear variety see best in a dim light when the pupils are large, they are then able to use the clear peripheral part of their lenses. These patients may have their vision temporarily improved by the constant use of a weak solution of atropine.

Patients may, also, complain of seeing various colored and shaped spots before their eyes. If these spots move only when the eye is moving, they probably are caused by opacity of the lens, but if they are constantly changing their position when the eye is fixed, the probability is that they are in the vitreous.

Beginning opacities of the lens are best made out with an ophthalmoscope after a mydriatic has been used. The symptoms will vary with the type and stage of the cataract—in the nuclear or diffuse variety there will at first be only a hazy appearance of the center of the lens, and unless a very low power of illumination and a plane mirror is used, the opacities can not be made out at all by transmitted light, and sometimes a strong focal illumination is better. The opacities show a gray color by focal and a dark color by transmitted light. There is a precataractous stage, which can sometimes be made out by a careful ophthalmoscopic examination; in these cases, while there are no actual opacities, certain sectors of the lens have different indices of refraction, and when the light strikes them at different angles, they present different appearances. This condition is hard to definitely describe, but when one has once seen it, it is easily recognized, and when found, it is a sure precursor of a beginning cataract.

Conjunctivitis, generally of a chronic or mild type, is sometimes present. The anterior chamber is usually normal in depth

in the early stage, later it may become shallow on account of the swelling of the lens. The pupil is generally small, and should be active, if there is no other disease of the eye. The age of the patient has also to be taken into consideration, the senile type of cataract being rarely seen before the age of fifty. The general health of a patient cannot be relied on much to aid us in our diagnosis—some apparently perfectly healthy and robust people, for their age, will be found to have senile cataract; others, semi-invalids, of great age, will have absolutely clear lenses. I do not wish to state that the general health has no effect on the formation of a senile cataract, for I believe it does have, but so far we are unable in many instances to trace the connection.

Treatment: Nonoperative treatment of senile cataract, in any stage, has until recently not been attended with any very brilliant results, although innumerable remedies have been used, recently dionin, in solutions of varying strength, instilled into the conjunctival sac, have been very highly recommended in incipient senile cataract, and apparently with some success, and is certainly worthy of a more extended and persistent trial. There have been recommended in the past few years many methods of hastening the ripening process. All of these methods have their advocates, and all of them have their particular merits; they, however, do not come in the scope of this paper, and hence the merits of the various processes will not be gone into.

I wish to call particular attention to the method of treatment which is strongly advocated by Colonel Henry Smith, of the British Army Medical Service in India, and by Dr. E. L. Jones, of Cumberland, Maryland. I refer to the sub-conjunctival injection of a solution of cyanide of mercury. Colonel Smith, who is the originator of the India-Smith or intracapsular extraction of the lens and who sees more cataracts in a year than most oculists do in a lifetime, states, unequivocally, that he has frequently seen beginning opacities clear up, or remain stationary, and the vision improve from 20/40 to normal, after the subconjunctival injection of cyanide of mercury. When such an authority as this makes such a statement, we are bound to, at least, give the method a fair trial. Dr. Jones, also a very brilliant and original thinker, highly recommends this method of treatment, and recently it has been advocated by several other American oculists, and I wish to add my testimony to the efficacy of this method when properly and judiciously used in the very early stages of cataract. I am not able to state positively just how it produces its beneficial results—whether the intense hyperæmia and reaction produces the improvement by increasing the nutrition of the lens, or by the greatly increased lymphatic circulation, I do not know—but that it does arrest, and in some instances entirely clear up the cataractous process, I am thoroughly convinced, both by my own experience as well as by the testimony of others in whom I have implicit confidence. The technique of giving a subconjunctival injection is very simple: The eye is first thoroughly cocainized and washed out with some mild antiseptic, a speculum may be used, but is not essential if the patient is at all tractable; with fine forceps a fold of conjunctiva is picked up, the needle inserted beneath the conjunctiva, and the injection slowly made—the site for this particular injection is preferably about half way between the lower sclerocorneal junction and the lower fornix so that there can be no interference from adhesion of the conjunctiva to the sclera, with a flap, operation, should an extraction become necessary later on.

The formula for the injection varies somewhat with the age of the patient and the amount of reaction we wish to produce; the strength of the cyanide solution may vary from 1-2000 to 1-6000, the younger and more vigorous a patient, the stronger the solution will have to be. To prevent or alleviate the pain, which may be rather

severe for several hours following the injection, a hypodermic of morphine is given about an hour previous to the subconjunctival injection, and morphine, dionin or aconin may be combined with the cyanide solution; the quantity of the solution may range from 20 to 40 minims; the reaction must be pronounced to be of any material benefit. Patients should be told beforehand that they will have a very bad-looking eye for some days, otherwise they will be greatly alarmed and apt to think that their eye has been harmed instead of helped by the injection, but in a few days the œdema and inflammation disappear and the eye soon assumes its normal appearance, and patients will frequently be pleased to find that their vision is materially improved.

The injection may be repeated one or more times at varying intervals; the injection is entirely harmless if ordinary care is used, and the results are frequently most gratifying to both patient and physician. The injection can be given perfectly well in the office and no after treatment beyond washing out the conjunctival sac, daily, is necessary. It is well, however, to cover the eye for a few days until the œdema and inflammation have subsided.

When we realize that this is about the only method that offers any well-grounded hope of benefit or relief to these patients, who are otherwise forced to wait for months or years until the cataracts have reached the operable stage (unless we are prepared to do the intracapsula extraction or some ripening operation), it seems to me that this method of treatment should be given a fair trial, and Florida offers a fertile field for a test of its usefulness, as cataracts are very prevalent in this State, as in all tropical and semi-tropical climates where there is a great deal of bright sunlight.

As prophylactic measures, we should advise the use of suitably tinted lenses to those who are much exposed to the glare of the sun. Another very important prophylactic measure is a very careful refraction and suitable glasses that all eyestrain may be relieved; of course, the general health must be kept at the highest possible standard.

This paper is written to stress the importance of an early recognition of senile cataract, and to bring to your attention a method of treatment that offers a definite promise of beneficial results.

720 Professional Building.

APPENDICAL ABSCESS: ITS TREATMENT AND COMPARATIVE FREQUENCY IN SMALL TOWNS AND RURAL DISTRICTS.*

N. A. Baltzell, M. D.,

Marianna, Fla.

Appendical abscess, whether acute or following as a result of chronic appendicitis, subacute or otherwise, is, after all, produced by a continuity of infection from the appendix itself. It matters not whether we accept the theory of Aschoff, which to my mind appears perfectly clear, that appendicitis is caused by an infection due to migration and lodgment of bacteria in the recesses and ridges of Luberkin crypts and their further invasion of mucous membrane producing an increase of white-blood cells under its epithelium, with still a further involvement if not checked, resulting in the various coats of the organ being affected, finally extending to the serosa itself. Such conditions existing and unchecked produce extreme tension in the walls of appendix, a stenosis following; and intramural abscess, gangrene or perforation results, with extension to the surrounding peritoneum and resultant abscess of greater extent and proportions.

I say it matters not whether the enterogenetic theory above mentioned is accepted or that of Kretz, who states that pathogenic organisms, particularly streptococci, are

*Read before the forty-fourth annual meeting of the Florida Medical Association, at Atlantic Beach, May 18, 19, 1917.

carried into the appendicular lymphatics by way of blood vessels forming leucocyte collections towards the mucous and serous coats, producing finally the same results.

The fact remains that abscess of the appendix is the result of an acute attack primarily, or of an acute excerbation of a chronic condition; that it is comparatively rapid and progressive in its formation is not to be denied, yet for a peri-appendicular abscess or a diffuse supperative peritonitis to result from an appendix of an acute infective nature, we must have either the bursting of a primary abscess in the appendix itself, gangrene or perforation without primary abscess.

In a gross way we will divide abscesses of appendix into four types:

Type I. Intramural abscess.

Type II. Localized adherent abscess.

Type III. Localized but nonadherent abscess.

Type IV. Nonlocalized with no including adhesions.

Treatment: This phase of the subject is one that extends an open field for discussion, and particularly that of the treatment of the appendix itself.

The literature is fairly full of references wherein our most prominent surgeons of today thoroughly disagree on this point, viz., whether the appendix should be removed in all abscess cases. Personally, with my limited experience of thirty-one cases of abscess appendix, I have followed this course: In those cases of Type II, the adherent localized cases, only in such instances wherein the appendix presented itself readily or was readily found without considerable search and traction on adhesions, same were removed; otherwise simple incision and drainage was done. The same treatment of appendix was followed in Type III, the nonadherent cases.

In Type IV, which includes for practical purposes the ruptured cases, and those of diffuse supperative peritonitis, the peritoneum already extensively involved, and the patient can be permitted to withstand a few minutes longer operative procedures, the appendix would best be removed, and such has been my treatment in these cases.

In support of the above treatment Dr. J. B. Deaver says: "The abscess being strictly circumscribed without accompanying peritonitis, the appendix not being visible or palpable, the abscess should in my judgment be evacuated, drained and allowed to heal, taking out the appendix subsequently.

Dr. J. B. Murphy says: "The appendix should be removed only when it is very accessible and the evidence of virulence mild."

Dr. A. J. Ochsner says: "If we can remove the appendix without danger of infecting the surrounding peritoneum, we always do so at primary operation; but if there is the slightest doubt in our minds we simply drain and remove appendix later."

Dr. W. S. Rodman: "After emptying the pus a limited search is made for appendix. I do not, however, break down adhesions and make an extensive search for it."

Sir Berkeley Moynihan: "If the appendix comes into view at once or after the simplest examination, it is removed, but if prolonged search is necessary, during which adhesions have to be separated, no attempt is made to remove it."

A number of others subscribe to this method of treatment.

On the other hand, notable exceptions to the above may be found. Among them Dr. Van Buren Knott reports 501 abscess cases of appendix operated in the seven years preceding 1914, and in every case the appendix was removed with only six deaths; a mortality of 1.2 per cent.

Dr. Archibald Cuff reports 68 cases with removal of appendix in all of them, with 3 per cent death rate.

Contra-apposed to this result, however, Dr. Maylord, an English surgeon, states that in 127 cases of abscess appendix 49 were simply opened and drained; in the remaining 78 cases the appendix was removed; the

mortality in the 49 cases was 10.2 per cent, while the cases in which appendix was removed the mortality was 29.5 per cent. I am free to admit that such death rate is extremely high in both cases.

So, after all, the personal equation has a great deal to do with the choice of the method, likewise it is frequently a matter of choice dependent upon the conditions met with at primary operation.

The operative treatment in my hands in these cases has been to open the abscess in the most prominent or resisting part, using the gridiron incision whenever possible, packing off with gauze tampons as protection to the peritoneum and the immediate turning of patient to right side as soon as pus is found; only gentle manipulations are now made, however, the cavity may be wiped out lightly with gauze sponges. The matter of drainage is the all-important procedure at this stage of operation; for this purpose nothing has been so good in my hands as a large, non-collapsible soft-rubber drainage tube without wicks or gauze; this tube is placed at the most dependent portion of abscess, and frequently a second large tube of like character is placed deep down into pelvis. These tubes are allowed to remain in position no less than forty-eight hours, and frequently much longer, at which time they are renewed and the cavity lightly swabbed out with gauze.

Dependent upon the amount of drainage, this size tube is continued for a few days longer, or gradually smaller tubes are used when cavity begins to fill in, which are regularly diminished in size and as cavity heals from bottom tubes are likewise shortened in length.

The position of patient in bed, that of requiring him to lie almost exclusively on right side for first ten days, is a very important part of the treatment in these cases, for drainage under such conditions is infinitely better.

The Fowler position is also now used practically in all my cases.

Protocyclosis with saline solution after the Murphy method has been a saving grace in my opinion, and glucose 5 per cent in the emaciated and underfed has been a valuable addition to the treatment.

In my series of 31 cases there were 2 of Type I, 16 of Type II, 10 of Type III, and 3 of Type IV. The mortality in above series was 3.03 per cent. The appendix was removed in only 5 of the series—2 in Type I, 1 in Type II, and 2 in Type IV. Ten of the cases were operated two years ago and longer, and not one has returned for subsequent operation. There was only one fecal fistula among the series, which healed readily without operation in three weeks' time.

That abscess appendix cases are comparatively more frequent in the small towns and rural districts is a fact that has presented itself to me most forcibly.

In a series of inquiries to ten small hospitals in ten small cities and towns in the South as to the comparative percentage of abscess cases to simple acute cases of the appendix, I had eight replies, and the total average of the eight was 40 per cent. From my own personal observation I have found it over 55 per cent.

Dr. R. M. Harbin reports 22 cases of appendix abscess, 14 of which were from the country. That such a condition is possible, I am constrained to believe, is in a number of cases an indictment of the doctors as well as their clientelle.

Dr. Murphy stated in 1912: "That every case of acute appendicitis that comes to a doctor with abscess outside of the appendix has in it unquestionable proof of the inefficiency of treatment up to that time."

It does not necessarily follow that the doctor has failed to make the proper diagnosis, but it is quite possible that his insistence upon immediate operation is far from emphatic, that he enters into the spirit of procrastination so delightful to the patient at this time, and the patient who is naturally prejudiced against operations at all, cheerfully suffers in abject ignorance of what is

really going on inside of him. With incredulity born of this ignorance, he permits himself hourly to approach the state of an emergency case with all the elements of danger attendant upon such cases which could have been avoided by an earlier operation.

When we consider the different stages of inflammation of any organ, and especially that of the appendix, though we agree that frequently the lapse of time between the primary infection and that of abscess formation of the appendix is extremely limited, yet there does exist in primary appendicitis, symptoms so plainly present in the extreme majority of cases that with the urgent insistence on our part for operation such cases can be brought to operation in the earlier stages with time quite sufficient to obviate the necessity of having to deal with appendix abscesses at all, and it is quite possible that the time may come when such cases will be truly antiquated and we may then be able to regard appendiceal abscesses as a pathological entity of the past.

Bibliography.

Walschied: International Journal of Surgery, 1911, XXIV, 107-112.
Foster: Medical Record, 1913, LXXXIV, 1163-1165.
Moynihan: Abdominal operations, 1914, Vol. II.
Knott: Journal A. M. A., 1914, LXII, 1004-1006.
Cuff: Lancet, 1908, 361-367.
Beatson: Glascow Medical Journal, 1909, LXXI, 433-459.
Harbin: Medical Record, 1909, LXXX, 54-56.
Murphy: Surgical Clinics, April, 1912, Vol. II.

NEURASTHENIA.*

John Blake White, M. D.,
Ormond, Fla.

Opinions vary greatly regarding the etiology of functional neuroses, and these disorders to a very great degree are somewhat uncertain and speculative.

Many definitions of neurasthenia have been advanced by those who have devoted themselves to the study of nervous disorders.

It would be interesting to allude to a few of the definitions of this interesting affection advanced by some well-known authors, and I am indebted to Dr. Austin F. Riggs, of Stockbridge, Mass., for a selection of some of the best-known authoritative views on this subject which were included in his most interesting and learned brochure on this subject.

M. A. Starr describes it "as a condition of exhaustion of the general nervous system, general or local," and refers to Edinger's belief in the cell-exhaustion theory with consequent selerotic degeneration.

In Hare's Therapeutics MacCarthy says: "Essential neurasthenia depends either on a congenitally inefficient nervous system, or upon abuse of the nervous system."

In Osler's System of Medicine Burr declares primary neurasthenia includes in its strictest sense only a condition of pathological weakness without any perceptible lesion, and Dana gives a definition of chronic functional nervous disorder expressed by a morbid weakness and more or less irritability of the nervous system.

White and Jelliffe describe the affection as a fatigue neurosis due to onanism which is a little too specific in my opinion, for I am sure I have seen neurasthenics in whom this etiological factor can have no association.

Church says "it may be due to continence," and, I think, with some logical basis.

Barker says "that neurasthenia and psychasthenic states are mild forms of mental disorder and are so-called functional nervous disturbances separable from organic," but declares that this is an arbitrary classification and should not be regarded "as diseases *per se* so much as nervous and mental syndromes—abnormal mental attitudes and reactions." There may be, he says, material changes in the nerve cells, but too much emphasis is not to be attached to this view.

---

*Read before the Volusia County Medical Society, at Port Orange, March 15, 1917.

My own view of the subject would be that neurasthenia embraces a condition of the nervous system without a definite lesion, manifested by phenomena relating to morbid and abnormal nervous function, resulting in a physical asthenia due to general abnormal nerve function.

I find Riggs' idea of this condition from his long observation of many cases corroborates this view, inasmuch as he says his conclusions are that "Neurasthenia is not weakness nor exhaustion—neither a malady of the intestines, the heart, the stomach, nor a disorder dependent upon structural change of the nervous system; hence it cannot be cured solely by rest or any physical means." Therefore his conception of the affection, drawn from experience, is that "it is the mental disorder probably without organic structural change, characterized by emotional overtone, ego-centricity or more graphically by an ingrowing attention; by mental inefficiency, by consequently poor adjustment of the individual to his environment, and, lastly, by a great variety of disturbances of bodily functions, which item, in common with all the others, acts retroactively upon all of its fellows."

Therefore he places psychotherapy as first and most important in treatment.

For this reason I believe that these cases thrive better in sanitaria where the patient is removed from every possible contact with accustomed surroundings and is under the constant supervision and direction of the physician.

Through acceptance of this definition we observe a field rich with symptoms to be studied and combated.

When definite pathologic conditions become evident, the case passes from a pure primary neurasthenia to a secondary type which merits classification under some more permanent morbific conditions which demand our first attention in the treatment, and so lessen or remove the less serious nervous symptoms.

Riggs has seemed to me to have a very much more correct conception of what neurasthenia means when he refers to subvarieties most commonly observed as psychasthenic and hypochondriacal, and says that he bent all of his energies in trying to understand the personality and the needs of each patient, which appears to me to be the only rational way to benefit such cases.

Among the principal causes of this interesting malady may be mentioned shocks, losses, unhappiness and difficulties of either or both mental and physical association. Prolonged convalescence after surgical operations of greater or less importance and often the apprehension of conditions not necessarily present, will engender a morbid nervous depression most difficult to overcome.

Riggs very properly says that neurasthenics are rendered worse by too prolonged rest and some individuals are better served by systematic and judiciously directed physical exercise, serving as it does, the double purpose of restoring functions and useful diversion.

I have seen neurasthenia well marked in men who indulged in excess of venery as well as in those who have practiced celibacy and in women whose husbands have been inconsiderately frequent in their embraces; in both young and older women, married and unmarried, who have been subject to menstrual irregularities of purely functional origin and having no evident pathological connection therewith than explainable by a psychopathologic cause.

You will, therefore, see that the treatment commended by Riggs and others must be individual and personally directed. A few requiring more or less medication and some no other treatment than such psychic influence as may be exercised by a judicious physician, astute and skillful enough to practice it on his subject.

It is not possible in the very limited time at our disposal to enter into even a reasonably full discussion of the causes or the treatment of this affection which is so

replete with so great a variety of symptoms requiring such varied means of combating.

The personal element with regard to both the patient and the medical attendant cannot be too much emphasized when we talk about the treatment of such cases, and I find that it is not always best to carry out to the fullest degree in many cases what is called the "rest treatment."

Some neurasthenics do better when a regular course of exercise with moments of absolute rest and relaxation are recommended. I find such patients very much prefer to be under discipline and like to be directed what to do, when to do it and not have to think for themselves. The smallest amount of mental effort seems to overthrow their power of control and continues their nerve asthenia.

CANCER.*

F. F. Ferris, M. D.,

Apalachicola, Fla.

In presenting this paper for your consideration, it is with the hope that it will provoke discussion which will prove beneficial to all present.

Cancer is today the most destructive of all the diseases of adult life. Its actual mortality, not only in the United States but all over the civilized world, has been shown to be greater than that of any other cause of death, except the mortality of infancy and that of tuberculosis at all ages. Among adults its mortality is greater even than that of tuberculosis.

Cancer attacks its victims at the time when they are in the most productive period of life, at the time when others are dependent upon them, and when they can least be spared. Of those who have attained the age of 40, one in every 11—one man in every 14, one woman in every 8—dies of cancer.

This mortality for the most part is preventable. We believe that from three-fourths to four-fifths of the deaths from cancer, with the attendant suffering, could be prevented if all of the medical profession were imbued, as they soon will be, with the latest knowledge of the disease, and if all the laity were familiar, not with the dreadful symptoms of the disease in its latest stages, which need not be mentioned to them, but with the trifling danger signals which contain the warnings of its threatened onset in an individual: of its probable appearance in the future, if it is left unchecked.

For their own sakes every member of the laity should know what these danger signals are.

Cancer appears to be on the increase in every civilized country, according to Hoffman's report. He makes a statement that the mortality is highest between 50 and 70 degrees north latitude, and decreases as you go toward the equator. In other words, cancer is excessively common in the northern part of the temperate zone, moderately common in the middle portion and relatively rare in the torrid or semi-torrid zone.

The annual mortality in the United States is 80,000. Mayo takes exception to the statement that cancer is on the increase, because the increase of cancer has not concerned the skin and visible mucous membrane of the body, where if it had existed it could have been easily identified.

To assume that cancer has increased in frequency in internal organs without an increase in external or familiar situations is not logical.

Inasmuch as the average human life has been lengthened about 30 years since 1700, the number of people of cancerous age is increasing, and this of itself must naturally account for a great increase of the disease.

Savages are said not to have cancer to any great extent, but the exact facts are not well known. Medical missionaries agree that cancer does exist among the savage

---

*Read before the forty-fourth annual meeting of the Florida Medical Association, at Atlantic Beach, May 18, 19, 1917.

races, but the percentage of primitive people who live to the later period of life when cancer is frequent, is small. At best when the savage becomes afflicted with cancer, he is in evidence but a short time, because he has no opportunity to care for himself in such a manner as to prolong his existence as may his civilized brother.

The cause of cancer is unknown, but we do know that it is an abnormal growth.

There are three theories of cancer growth:

(1) Cohnheim's theory.

(2) The parasite theory which is that cancer is due to a parasite which directly affects the embryonic cells.

(3) The third theory argues that the tissues, when subjected to irritation, increase their activity to protect themselves from injury; that at first mature cells are brought up for defense, but finally failing in the attempt to heal the breach of continuity by mature cells, Nature brings up immature, undeveloped embryonic cells.

Whatever the cause may be, we do know that cancer never begins in a healthy spot, and that there are predisposing causes which are responsible for its existence. It is probable that cancer is not hereditary.

We have no proof that cancer is contagious, in that it is carried from one individual to another.

Among the predisposing causes may be mentioned abnormal preexisting conditions, age and occupation, abnormal preexisting condition of warts and moles which remain in this condition for a long time and finally become irritated and cancer develops.

Age. Cancer is essentially a disease of later life, and liable to come in tissues that show age. Of the 80,000 estimated deaths from this disease in our country at all ages during the year 1915, 84½ per cent occurred at the age of 45 years and over.

Occupation—that leads to chronic irritation may lead to cancer.

The term precancerous, while not strictly accurate, is applied to those lesions from which cancer may develop.

Irritation is one of the most important factors in causation of cancer that we have to consider.

Sites of local irritation may be divided into three general groups:

Congenital.

Traumatic.

Chronic Irritation.

Congenital or acquired neoplasms, such as warts, moles and benign tumors of various sorts, which may undergo malignancy.

Bloodgood, in recent years, in a series of remarkable papers on the cancer problem, points out that of 820 pathologically fully developed cancers of the skin and visible mucous membrance he was unable to find a single case with a well-taken history showing the absence of a previous defect which might be looked on as a precancerous lesion.

Traumatic. Coley calls attention to the influence of trauma, not only in the development of Sarcoma, which has long been an accepted fact, but that it is a strong factor in the production of carcinoma.

Any injury which fails to heal promptly should be investigated to determine, if possible, the cause of delay.

Chronic irritation—whether the result of mechanical, chemical or infectious agencies—is the most important of all those precancerous conditions with which we are acquainted, and it is undoubtedly the most potent influence in the development of the disease following congenital lesions and trauma.

What has been said of the influence of chronic irritation in man is equally true in lower animals.

In the human being it may be noted that cancer in any part of the body which is open to inspection may, in practically every instance, be shown to be preceded by a local lesion. For example—in China, where the head is partially or entirely shaved in public places, the razor used is ragged and dull. The continuous scraping of the scalp pro-

duces a form of irritation on which cancer frequently develops, and in those parts of China, the commonest forms of the disease.

Chinese men suffer from cancer of the posterior wall of the pharynx and upper esophagus due to their ordinary food of hot rice, which is thrown into the mouth with considerable force with the chopsticks.

Chinese women eat at the second table when the rice is cold and do not suffer from the disease.

In India the natives chew the betel nut, a rough nut wrapped in a leaf with certain condiments, which is held between the gum and cheek.

In Madras, India, more than 50 per cent of all cancers seen in the mouth are due to the betel nut.

In the same provinces both men and women use betel nut and both suffer equally with cancer of the mouth.

In other parts of the country the women avoid the practice and do not have the disease.

Cancer of the mouth in civilized countries has been remarkably reduced by good dentistry.

In former times it was common in connection with rough ragged teeth, and when seen now, usually has such origin.

Of cancers of the lip 85 per cent are in smokers, formerly to a considerable extent, clay-pipe smokers, which is perhaps due to the heat. Since clay pipes are no longer smoked, there has been a very marked reduction in the number of cases of cancer of the lip. The smoking habit will be found to be the cause of cancer of the lip, tongue and floor of the mouth, in the majority of cases. These are only a few examples.

In the human being it may be noted that cancer in any part of the body which is open to inspection, may practically, in every instance, be shown to be preceded by a local lesion.

Can our knowledge of the development of external cancer be applied to the problem of internal cancer?

Admitting that the mass of evidence as to the role of chronic irritation in its various forms is the most important factor in the parts of the body which are exposed to the eye, must we not conclude that cancer of the inner surface of the body depends on the same precancerous condition.

Cancer of the stomach forms nearly one-third of the cancers of civilized man. In 1913, of the 75,000 deaths from this disease, about 30,000 were deaths due to cancer of the stomach and liver, 12,000 from cancer of the uterus and other organs of generation, 7,500 from cancer of the breast, and 25,500 from cancer of other parts of the body.

Considering the great mortality of cancer of the stomach, is it not possible that there is something in the habits of civilized man, in the cooking or other preparation of his food, which produces the precancerous lesion?

Can the taking of exceedingly hot foods or very cold drinks have anything to do with the development of cancer of the stomach? Is it not a fact that we treat our stomachs worse than any other part of our bodies?

The prophylaxis and cure of cancer are all-important considerations with the patient.

The prevention of cancer is to a large degree possible. It means the prevention of all causes of chronic irritation and the relief of all such conditions when established. If such conditions cannot be quickly relieved the possibility of a precancerous lesion must be thought of.

This is the great opportunity. Small tumors — warts — moles, etc., that are becoming irritated, sores and abrasions which fail to heal, injuries which have not fully resolved, all such conditions should receive appropriate treatment, and then cancer will not develop.

Every woman, a short time after confinement, should be examined and if the cervix has been badly lacerated, it should be repaired.

Any irregular discharge in a woman past

35 is to be considered an alarming symptom and should be thoroughly investigated. Everything which has been said about lesions of this sort on the visible parts of the body, applies equally to concealed situations.

Persistent indigestion, with loss of weight, and change of color is always suspicious, and requires laboratory tests, examination with X-rays and possibly an exploratory incision.

Cancer is at first a local disease. It follows, therefore, that if the disease is thoroughly removed while it is still local, the patient gets well and stays well.

It spreads (1) by permeation that is directly, (2) by way of the lymphatics to a very great extent, (3) by way of the blood vessels to a smaller extent, (4) and in certain situations by grafting.

The prognosis of cancer, taken as a whole, is much better than is generally thought.

The cure of cancer at the present time is not a drug, not a serum, not a ray, not a miracle, but simply the education of the people as to the signs at its beginning, as to its first warning, which will lead to an immediate examination in the stage most favorable for a cure.

It is important, therefore, to know that the first warnings of cancer are not different from the diseases that may later be cancer, or that may never develop into cancer: that every one will be duly warned and in the great majority of cases, that warning will be in plenty of time for protection.

In educating the public, it is unnecessary to excite fear by presenting the gruesome, hopeless, agonizing side of cancer. This stage of cancer develops under ignorance, skepticism or procrastination because of an entirely needless fear of an operation.

The message to be given to everyone is simple and should only excite sufficient fear of a beginning of cancer to lead him to seek advice and proper treatment in that early stage in which the probability of a cure is often 100 per cent.

The message is so simple that most people will be disappointed when they learn how cancer is to be controlled. No miracle is needed, unless the education of millions at a time may be considered miraculous.

The chief hope for increasing the numbers of cures of cancer is early operation. Now people cannot be treated unless they seek advice. They require information (authentic information) on the earliest signs of the conditions which are, or might lead to cancer.

I give credit to the thoughts herein expressed to the master minds of our noted colleagues, Bainbridge, Bloodgood, Wm. Mayo, and to the American Society for the Control of Cancer.

PROPAGANDA FOR REFORM.

Toxicity of Salvarsan and Neosalvarsan.—Claude L. Shields, M. D., Salt Lake City, reports that out of the last twenty-three injections of neosalvarsan four cases exhibited severe poisoning and one resulted in death. He reports the experience of other physicians of severe toxic symptoms from the use of recent shipments of salvarsan and neosalvarsan. (*Jour. A. M. A.*, Jan. 6, 1917, p. 53.)

The Search for the Ideal Antiseptic.—R. A. Lambert has followed the effect of the same chemical agent on bacteria and tissue cells growing together in vitro. He finds that the growth of tissue cells is more easily affected by potassium cyanide, phenol, tricresol, hydrogen peroxide and alcohol than was the growth of bacteria. Iodin stands out as the one chemical tested to which tissue cells were found more resistant than were staphylococci. A good growth of cells was seen after exposure to a 1 in 2,000 solution of iodin for an hour—a strength sufficient to sterilize the tissue completely in most instances. Lambert points out that the power of iodin to dissolve fibrin may be an objection to its use as an antiseptic wound dressing. (*Jour. A. M. A.*, Jan. 6, 1917, p. 40.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.
Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.
Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.
GRAHAM E. HENSON, M. D.....*Jacksonville*

ASSOCIATE EDITORS.
THOMAS TRUELSEN, M. D.....*Tampa*
J. K. SIMPSON, M. D.....*Jacksonville*

COLLABORATORS.
JOHN E. BOYD, M. D., Jacksonville.....*Surgery*
R. H. MCGINNIS, Jacksonville.....*Medicine*
GERRY R. HOLDEN, M. D., Jacksonville.....*Gynecology*
JAMES D. LOVE, M. D., Jacksonville.....*Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville.... *Eye, Ear, Nose and Throat*
J. L. KIRBY-SMITH, M. D., Jacksonville...*Dermatology*
E. G. BIRGE, M. D., Jacksonville..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.
RALPH N. GREENE, M. D., President.....*Jacksonville*
H. C. DOZIER, M. D., First Vice-President.....*Ocala*
D. A. MCKINNON, M. D., Second Vice-President, *Marianna*
H. HANSON, M. D., Third Vice-President..*Jacksonville*
GRAHAM E. HENSON, M. D., Secretary-Treasurer, *Jacksonville*

EXECUTIVE COMMITTEE
F. F. FERRIS, M. D.....*Apalachicola*
W. E. ROSS, M. D.....*Jacksonville*
E. VAN HOOD, M. D.....*Ocala*

COUNCILLORS.
First District — Escamhia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920
Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: F. F. Ferris, M. D., Apalachicola 1921
Third District—Columhia, Hamilton, Madison, Lafayette, Suwanee and Taylor Counties: W. C. White, M. D., Live Oak 1921
Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville..1918
Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala..1919
Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa.....1919
Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park 1917
Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920
Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918
Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia.....1920
Eleventh District—Dade, Monroe and Palm Beach Counteis: W. R. Warren, M. D., Key West...1921

COMMITTEE ON SCIENTIFIC WORK.
H. MASON SMITH, M. D.....Chattahoochee
JOHN S. HELMS, M. D.....Tampa
W. R. WARREN, M. D.....Key West

Next Meeting —— Tampa —— May, 1917

REGISTRATION AT THE ATLANTIC BEACH MEETING.

The following physicains registered at the Atlantic Beach meeting:

E. W. Warren, Palatka.
J. A. Simmons, Arcadia.
E. Van Hood, Ocala.
Graham E. Henson, Jacksonville.
John S. Helms, Tampa.
J. B. Wallace, Tampa.
W. P. Adamson, Tampa.
L. S. Oppenheimer, Tampa.
Henry C. Dozier, Ocala.
C. H. Ryalls, Dellwood.
J. E. Goethe, Palatka.
J. C. Wells, St. Andrews.
H. W. Wade, Dade City.
Mary Freeman, Perrine.
H. C. Babcock, Miami.
George B. Coon, Tampa.
John Reeve, DeLand.
George M. Floyd, Hawthorn.
J. G. DuPuis, Lemon City.
John E. Boyd, Jacksonville.
T. S. Anderson, Live Oak.
L. E. Parmley, Winter Haven.
M. M. Hannum, Eustis.
R. R. Kime, Lakeland.
George B. Glover, Monticello.
George O. Davis, Madison.
R. Y. H. Thomas, Jacksonville.
W. H. Cox, Brooksville.
F. J. Walter, Daytona.
John D. Peabody, St. Petersburg.
John MacDiarmid, DeLand.
C. D. Christ, Orlando.
A. H. Freeman, Starke.
Wm. R. Warren, Key West.
H. Gates, Bradentown.
James V. Freeman, Jacksonville.
C. P. Rogers, Jacksonville.
F. J. Waas, Jacksonville.
Stanley Erwin, Jacksonville.
W. C. Young, Cheifland.
Shaler O. Richardson, Jacksonville.
T. Z. Cason, Jacksonville.
C. L. Hyatt, Kissimmee.
Edward Jelks, Jacksonville.

B. F. Hodsdon, Miami.
Harry A. Peyton, Jacksonville.
R. F. Hotard, Winter Park.
J. L. Kirby-Smith, Jacksonville.
F. F. Ferris, Apalachicola.
E. M. Brevard, Tallahassee.
C. M. Ausley, Tallahassee.
L. W. Cunningham, Jacksonville.
H. L. Brillhart, Jacksonville.
W. W. MacDonell, Jacksonville.
C. J. Marshall, Oviedo.
M. B. Herlong, Jacksonville.
W. C. Chowning, New Smyrna.
H. K. Morrison, Leesburg.
Frederick Bowen, Jacksonville.
C. C. Bohannon, Daytona.
H. Mason Smith, Chattahoochee.
R. N. Greene, Jacksonville.
L. A. Greene, Greenville.
R. E. Wilhoyte, Lake Wales.
D. A. McKinnon, Marianna.
Z. V. Johnston, Milton.
J. H. Hodges, Gainesville.
Maurice E. Heck, St. Augustine.
H. H. Seelye, Atlantic Beach.
G. E. Beckman, Jacksonville.
J. W. Hodges, Jacksonville.
J. P. Tomlinson, Starke.
J. H. Pittman, Jacksonville.
Seale Harris, Birmingham, Ala.
A. R. Parrott, Jacksonville.
W. M. Davis, St. Petersburg.
C. M. Mitchell, Palatka.
J. H. Colson, Gainesville.
D. T. Smith, Gainesville.
William J. Buck, Gainesville.
E. C. Birge, Jacksonville.
Joseph Y. Porter, Key West.
C. H. Dobbs, Jacksonville.
Hiram Byrd, Princeton.
Louis Stinson, Jacksonville.
H. A. Mills, Jacksonville.
H. A. Ives, Jacksonville.
Henry Hanson, Jacksonville.
M. W. Seagears, St. Augustine.
John Porter, McKeesport, Pa.
Albert H. Wilkinson, Jacksonville.
W. G. McKay, Jacksonville.
A. C. McKenzie, Jacksonville.
F. L. Watkin, Jacksonville.
L. G. Haskell, Jacksonville.

WHAT IS THE SECURITY FOR A LIBERTY LOAN BOND?

The faith and honor of the United States, backed by all of the resources of the Nation and the American people. A Liberty Loan Bond is a mortgage on all the resources and taxing powers of the Government and all of the resources of the American people.

WHAT ARE THE TERMS OF A LIBERTY LOAN BOND?

Liberty Loan Bonds of the first issue of $2,000,000,000 are to bear date of June 15, 1917, and to run for thirty years, except that the Government reserves the right to pay them fifteen years after date. If this right is not exercised by the Government fifteen years from date, the bonds will run the full thirty years.

These bonds bear interest at 3½ per cent per annum, and the interest is payable semi-annually on the fifteenth day of December and the fifteenth day of June in each year.

WHAT SPECIAL ADVANTAGES HAVE THESE LIBERTY LOAN BONDS?

One especial advantage no other bonds, National, State, municipal, or corporate, have is that if the United States during the continuance of this war shall issue other bonds at a higher rate of interest, the holders of these Liberty bonds have the right to exchange their Liberty bonds for bonds bearing the higher rate of interest, dollar for dollar.

THE MOBILIZATION OF THE MEDICAL PROFESSION.

The development of modern medicine and surgery has established the importance, in

any military activties on a large scale, of a competent and adequate staff of medical officers. Present-day surgery, hygiene and sanitation have adequately demonstrated their immediate and practical value in the handling of large bodies of troops. The mobilization of the physical forces of the nation now going on concerns the medical profession directly and offers to it an opportunity greater than any it has heretofore had in our national history. Physicians are needed for this most important and valuable service. In a nation like ours, based essentially on peaceful occupations rather than on militarism, reliance must always necessarily be placed on volunteers, drawn from the ranks of civil life, rather than from a special class trained to military service. No duty which confronts the medical profession today is more important than that of supplying, from the ranks of the American medical profession, such medical skill and service, both in quality and quantity, as the present need may require. Discussion of various phases of medical preparedness has been going on for many months past. It is gratifying to know that whatever may be the needs of the future, our country is probably today better prepared to meet any medical emergencies which may arise than at any previous time in its history. Various activities in this direction have from time to time been recorded and commented on in *The Journal*. One of the most important problems is the instruction of civilian physicians in the details of military hygiene and sanitation. On this subject, the Clinical Club of Albany, over a year ago, devised a plan which is worthy of the careful consideration of groups of physicians desiring to prepare themselves for military service. The resolutions passed by the University of Michigan Medical School and the Alabama State Board of Health are efforts to solve the question of the increased demand for professional services which is bound to follow the diverting of large numbers of physicians from civilian to military work. The plan proposed by the Maryland State Committee on Medical Preparedness is an effort to minimize the practical difficulties which will confront the physician who is asked to give up, for the time being, his private practice for public service. These various plans are worthy of the careful consideration of physicians, both as individuals and as members of medical organizations. The present situation calls for cool judgment and deliberate action in order that the medical profession may perform well its full duty.—*Journal of the American Medical Association*, April 14, 1917.

CHILDREN IN WAR TIME.

Thousands of children besides war orphans and refugees have been directly affected by the war, according to reports from belligerent countries which have come to the Children's Bureau of the United States Department of Labor. Juvenile delinquency has increased, more children have been employed under adverse conditions, special measures have been necessary to protect the health of mothers and babies, and home life has been broken up by the increased employment of mothers.

The Bureau believes that the experience of other countries should be carefully considered in order that all possible provision may be made to prevent similar harm to children in the United States. The Bureau has therefore begun a brief review of foreign experience, in so far as it can be understood from available reports, and will shortly publish a series of special articles about children in war time.

A preliminary survey of the foreign material emphasizes the importance of a strict enforcement of all child-labor and school-attendance laws and a generous development of infant-welfare work by public and private agencies. The Children's Bureau suggests that a well-planned Baby Week will be more valuable this year than ever before and will gladly send its bulletin of

directions for Baby-Week Campaigns to any address.

To those who are especially interested in working children, the Bureau's new report on the Employment-Certificate System in New York State will show certain points which are essential if an age limit for children's work is to be effective.

SAVING MOTHERS.

More women 15 to 45 years of age die from conditions connected with childbirth than from any disease except tuberculosis. About 15,000 deaths from maternal causes occur annually in the United States, and the available figures for this country show no decrease in the maternal death rate since 1900. Maternal deaths are largely preventable by proper care and skilled attendance.

These 15,000 deaths do not measure the full extent of the waste. They are merely a rough index of unmeasured preventable illness and suffering among mothers. Furthermore, certain diseases of early infancy are closely connected with the health of the baby's mother and the maternity care she has received, and these diseases cause about one-third of all the deaths occurring among babies under one year of age. More than 75,000 babies die each year from this group of diseases because they do not have a fair start in life.

The life and health of the mother are in every way important to the well-being of her children. Breast feeding through the greater part of the baby's first year is his chief protection from all diseases, and mothers are much more likely to be able to nurse their babies successfully if they receive proper care before, at, and after childbirth.

The expectant mother should at once consult a physician. She should remain under supervision so that any dangerous symptom may be discovered as soon as it appears. She should learn how to take care of herself, and she should have proper food and rest and freedom from anxiety. When the baby is born, the mother needs trained attendance. A difficult maternity case is one of the gravest surgical emergencies. Many people do not seem to understand that in any case complications may arise which can be met safely by prompt and skillful scientific care but which at the hands of an unskilled attendant may cost the life of mother or child or both. Even after confinement the mother needs continued supervision and rest until her strength has returned.

Thousands of mothers, both in city and country, do not have the essentials of safety, partly, perhaps chiefly, because they do not realize the dangers involved in lack of care or else accept the dangers as unavoidable. Many women are at present unable to obtain proper care but when all women and their husbands understand its importance and demand it for every mother, physicians will furnish it, medical colleges will provide better obstetrical training for physicians, and communities will see to it that mothers are properly protected.

Little has been done as yet to show women that much of the waste of mothers' lives and health is unnecessary. Even less has been undertaken by communities to provide protection for them. Many communities which have studied their typhoid and tuberculosis death rates and have undertaken costly measures to reduce them have been heedless of the death rates among mothers. It is not strange therefore that since 1900 the typhoid rate for the country as a whole has been cut in half, and the rate from tuberculosis has been markedly reduced, while the death rate from maternal causes has shown no demonstrable decrease.

Just how the importance of adequate maternity care is to be made plain to a community, and just how skilled care and instruction are to be made available for all mothers, are, of course, local questions to be considered by each community. The prenatal clinics and prenatal nursing which are being developed in many cities suggest a method of supervision and instruction which

might well be extended. Even in cities where such work is carried on and where good hospitals are numerous, the number of mothers reached is small in compared with the number who bear their children without adequate care.

Difficulties are perhaps greatest in rural districts where the sheer inaccesibility of a physician is often added to the other elements of the problem. Here a public nursing service with headquarters at the county seat, or other accessible town, would probably be the first step, placing at the service of every expectant mother a visiting nurse who is especially equipped to give her information about personal care and to watch for symptoms of trouble demanding medical advice. As such a nursing service develops, its headquarters might become, with the cooperation of physicians, a sort of maternal and child-welfare center to which not only expectant mothers but also mothers with babies could come for instruction, examination and advice. If no general hospital were conveniently near, a cottage hospital for mothers and babies might ultimately form a part of such a center.

A more general use of existing provisions for scientific maternity care and the extension of provisions for such care in all types of communities should serve to reduce the number of deaths among mothers and babies and to improve the health and general condition of children throughout the country. A full discussion of the causes and prevention of maternal deaths and an analysis of available statistics, are contained in a report on Maternity Mortality, published by the Children's Bureau.

The following Children's Bureau publications are of special interest in conection with work for the welfare of mothers and babies and may be obtained upon request from the Children's Bureau, Washington, D. C.:

Birth Registration: An aid in protecting the lives and rights of children, 20 pp., 3d ed., 1914. Bureau publication No. 2. Tells why every birth ought to be registered with local authorities.

Prenatal Care, by Mrs. Max West. 41 pp., 4th ed., 1915. Bureau publication No. 4. Describes the care a mother should have before her baby comes.

New Zealand Society for the Health of Women and Children: An example of methods of baby-saving work in small towns and rural districts. 18 pp., 1914. Bureau publication No. 6.

Infant Care, by Mrs. Max West. 87 pp., 1914. Bureau publication No. 8. Tells a mother how to take care of her baby through the first two years.

Infant Mortality: Results of a field study in Johnstown, Pa., based on births in one calendar year, by Emma Duke. 93 pp. and 9 pp. illustrated, 1915. Bureau publication No. 9.

Infant Mortality, Montclair, N. J.: A study of infant mortality in a suburban community. 36 pp., 1915. Bureau publication No. 11.

Infant Mortality: Results of a field study in Manchester, N. H., based on births in one year, by Beatrice Sheets Duncan and Emma Duke. Bureau publication No. 20. (In press.)

The Johnstown, Montclair, and Manchester reports show something of the home and community conditions which endanger babies' lives.

Baby-Week Campaigns (Revised edition): 144 pp. and 15 pp. illustrated, 1917. Bureau publication No. 15. Tells how a week (or a day) may be used to show a community what it ought to do for its babies and mothers.

A Tabular Statement of Infant-Welfare Work by Public and Private Agencies in the United States, by Etta R. Goodwin, 114 pp., 1916. Bureau publication No. 16. List of infant-welfare agencies and their activities in cities having a population of 10,000 or over

Maternal Mortality from all Conditions Connected with Childbirth in the United States and Certain Other Countries, by Grace L. Meigs, M. D., 66 pp., 1917. Bureau publication No. 19. Discusses causes and prevention of deaths in childbirth and reviews available statistics.

How to Conduct a Children's Health Conference, by Frances Sage Bradley, M. D., and Florence Brown Sherbon, M. D. Bureau publication No. 23. (In press.)

THE WAR AND MEDICAL RESEARCH.

"Who is going to care about a streptococcus six months from now?" said a well-known pathologist. War is declared; men's minds are on preparedness, on the food supply, on soldiers and on the wounded. Attention has shifted from the ordinary problems of life to the great topic. And so, too, the attention of research workers will shift from those phases of medical research which concern the cultural characteristics of micro-organisms, the intricate anatomy of the lower forms of life, the molecular arrangement of unknown minor constituents of the urine, to the broad problem of putting

as many men as possible at the front, keeping them there and getting them back again as quickly as possible when the exigencies of war cause their temporary removal to the hospital. Research abroad is now concerned with the effects of shrapnel on the body, with the ability to inoculate the soldier against the many epidemic diseases that confront him, with the control of tetanus and with the control of tuberculosis, which is extensive among the soldiers of France. Whole wards are filled with patients suffering from nephritis; with cases of insufficiency of the heart attributed to the terrible strain of forced marches; entire hospitals are devoted to soldiers suffering from shell shock; to wounds of the brain or similar war injuries. The individual is lost in the mass. And thus the focus of medical research shifts in war time. Laboratory and research workers leave their laboratories to devote themselves to problems which concern not the disabilities of individual men, but the disabilities of groups of thousands of men. —*Journal of the American Medical Association,* April 21, 1917.

THE MORE RECENT GRADUATES DESIRED.

According to news from Washington, the quota necessary to fill the present vacanies and requirements of the Army Medical Corps will be drawn from among those who graduated in 1912 to 1916. The total number that would be included in such a list would be approximately 19,000. The list of graduates in the five years mentioned, and also for 1917, is as follows:

MEDICAL COLLEGE GRADUATES.

	From Colleges in Class			
	A	B	C	Totals
1912	2,790	1,063	629	4,482
1913	2,539	1,050	392	3,981
1914	2,626	686	282	3,594
1915	2,629	688	219	3,536
1916	2,630	695	193	3,518
1917*	2,641	625	101	3,367
Totals	15,855	4,807	1,816	22,478

*Seniors.

As stated last week, there is an immediate need of additional physicians for the Medical Corps of the Army, and for the Medical Corps of the Navy. For these positions preference will be given to young physicians. The Army Medical Corps insists on a year's internship in a hospital after graduation; the Navy, however, is not now insisting on this, but is recognizing 1917 graduates. The young man who takes any of the positions now open is availing himself of a great opportunity for life work. The Army and Navy medical services offer a chance for a broad general training, an opportunity to do research in time of peace and, perhaps, of early promotion as never existed before.—*Journal of the American Medical Association,* April 14, 1917.

BASE HOSPITALS FOR THE ARMY.

In the news columns is an account of the progress which has been made in the organization of base hospitals under the direction of the American Red Cross. Several points are worthy of mention in connection with this movement. The first is that for over a year the details of this movement have been going on quietly and without excitement or hysteria. When it is considered that thirty-four hospitals have been organized and twenty-three of them completely equipped, that this involves the selecting, enrolling and training of over 800 physicians and surgeons and the selecting of a total personnel of nearly 7,000 persons, it will be realized that the medical profession has for some time been doing its share in the national preparedness movement. The function of these base hospitals should be clearly understood. They are not intended for operation in the cities in which they are organized, but are mobile units which can be sent on short notice to any desired location. They are not intended for operation in the field in close connection with troops or near the firing line, but are designed to serve as base hospitals receiving the

THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Volume III St. Augustine and Jacksonville, Florida, June, 1917 Number 12

Proceedings of the Forty-fourth Annual Meeting of the Florida Medical Association, Held at Atlantic Beach May 18th and 19th, 1917.

FRIDAY, MAY 18th.

The meeting was called to order at 11 a. m. by the President, E. W. Warren, M. D.

Invocation was delivered by Rev. Milton R. Worsham.

R. H. McGinnis read the following report of the Executive Committee:

Annual Report of the Executive Committee of the Florida Medical Association.

HOUSE OF DELEGATES—Under our Constitution and By-laws the House of Delegates conducts the business of the Association. The delegates represent every twenty members or fraction thereof of a component County Medical Society. This body as a whole is unfamiliar with the business of the Association. It attends the annual meetings for the purpose of listening to and discussing scientific subjects. During the meeting of the Association the House of Delegates for their meetings must take up the time of the Association. We would recommend, therefore, that the succeeding Executive Committee devise a means of abolishing the House of Delegates and placing all the business of the Association on the Executive Committee. The Executive Committee is composed of the President and Secretary-Treasurer as ex officio and three members appointed by the President. On such a committee the business of the Association should rest. It could conduct the business of the Association in the interim of the annual meetings. This smaller group of members could get together oftener and consult oftener on questions concerning the Association's business. Such a program would be conducive to selecting our best men as executives. On our executives should be placed the business of the Association. With their report each year the entire Association becomes familiar with its own business.

The Journal:

It seems that THE JOURNAL has not become self-sustaining, and we recommend that one dollar and a half of the three-dollar fee from each member be given THE JOURNAL instead of one dollar as at present. The expenses of the Association are the Secretary-Treasurer's salary, expenses of delegate to American Medical Association meeting, expense of delegate to Conference of American Medical Colleges, Medical Council of Education, etc., and a few incidentals. The dollar and a half will take care of these expenses.

The Secretary-Treasurer and Editor of the Journal:

Since the service of the Secretary-Treasurer and editor of THE JOURNAL is purely of a business nature, we recommend that he furnish a bond, to be paid for by the Association, sufficient to properly protect this officer and the Association. That prior to our annual meetings an audit be made by accredited accountant of the accounts and books of the Secretary-Treasurer and editor of THE JOURNAL and a report of same be submitted to the Executive Committee; the Executive Committee be authorized to carry out the details of this measure.

A Solicitor:

Some correspondence from the American Medical Association relative to a cooperative solicitor

The President sent the following reply to the telegram addressed to him, by the Association in annual meeting assembled at Atlantic Beach, Fla.:

THE WHITE HOUSE, WASHINGTON.

The President thanks you cordially for the good will which prompted your kind message, which has helped to reassure him and keep him in heart.

for membership in this and the American Medical Association has been received by our Secretary, which he will read and may be incorporated here. It seems that the proposition from the American Medical Association is fair and simple, obligating this Association only to the extent of one dollar for each member secured, netting us two dollars for the first-year membership. We would recommend that the Association authorize its Executive Committee to take this matter up with the American Medical Association and act upon it this year.

Board of Medical Examiners:

We would recommend that the Executive Committee be empowered to solicit the Governor of the State in his appointments of members of the State Board of Medical Examiners; that it be left to the discretion of the Executive Committee how best to conduct this intricate business.

Revision of the Constitution and By-laws of the Association and Printing Copies of Same:

Since the adoption of our present Constitution and By-laws about fifteen years ago we have had no revised copies printed. A number of amendments have been incorporated into both the Constitution and By-laws during this period. Only a few of our members are conversant with the rulings under which we operate. We recommend that, if they think it expedient, the Executive Committee for 1917-1918 consider the question and incorporate in their 1918 report recommendations as to the best procedure.

Eclectic Board:

A number of our members contributed to a fund to assist in the prosecution by the State of the Eclectic Board of Medical Examiners and we recommend that they be reimbursed out of the funds of the Association.

Respectfully submitted,

R. H. McGinnis,
John MacDiarmid,
Ralph N. Greene,
Committee.

Upon motion of Dr. Henson, duly seconded, the report was received as information and referred to the House of Delegates to take action upon the recommendations contained therein. Carried.

The following report of the Secretary was read:

Report of the Secretary.

There are at the present time thirty-one county organizations in the State. Reports for 1917 have been received from twenty-five. The counties not reporting at the time this report is made out number six, namely, Putnam, DeSoto, Calhoun, St. Lucie, Osceola and Leon-Gadsden.

There are at present time enrolled in this organization a total membership of 601.

It is recommended that the Constitution of the State Association be so amended as to direct the County Secretaries to make their annual reports sixty days before the annual meeting instead of thirty days as now provided.

Your Secretary wishes to endorse the recommendation of the Executive Committee that the Secretary-Editor be bonded by a Surety Company. In fact it was at the suggestion of your Secretary this recommendation was incorporated in the report of the Executive Committee. Between the affairs of the Association and those of The Journal, a sum in the neighborhood of $5,000 is handled annually.

In days gone by when the duties of the Secretary simply consisted of collecting the State dues and paying out the current expenses of the Association, there was no need of such a step, but with the increased duties it is evident that this will be in the interest of the organization. It is recommended that our Constitution and By-laws be so amended as to provide for the seating of the Executive Committee in the House of Delegates.

All of which is respectfully submitted.

Graham E. Henson,
Secretary.

The following report was read by the Treasurer:

Treasurer's Report, Florida Medical Association, 1917.

Balance on hand 1916	$1,409.67
Dues collected from additional members secured during 1916-17	141.00
Dues for ensuing year	1,185.00
	$2,735.67
By expense account as per voucher	1,772.03
Balance on hand	$ 963.64
	$2,735.67

Graham E. Henson,
Treasurer.

The following report was read by the Secretary-Editor:

Report of the Secretary-Editor.

The financial statement appended to this report shows The Journal to be in a satisfactory condition. There have been twelve numbers published

since the last annual meeting. The total earnings from these issues amounting to $1,363.42. THE JOURNAL has established exchange relations with sixty periodicals. The Duval County Medical Society has provided housing for these. They are kept in good condition and are at all times available to members of the Association desirous of reviewing current literature.

The $800 which was originally appropriated by the Florida Medical Association when THE JOURNAL made its first appearance has been gradually absorbed, and your Secretary believes that the recommendation of the Executive Committee that $1.50 of the State dues of each member revert to THE JOURNAL a wise one and in the interest of the organization.

All of which is respectfully submitted.

GRAHAM E. HENSON,
Secretary-Editor.

Financial Statement of the Journal of the Florida Medical Association.

RESOURCES.

Balance cash last annual report		$ 10.86
Pro-rata subscriptions Association members		540.00
Furniture		96.66
Accounts receivable last annual report		646.17
Earnings from advertisements:		
May	$ 95.00	
June	102.00	
July	106.32	
August	127.40	
September	120.42	
October	112.38	
November	108.63	
December	107.72	
January	113.97	
February	119.64	
March	122.97	
April	126.97	$1,363.42
Pro-rata subscriptions Association members ensuing year		435.00
		$3,092.11

DISBURSEMENTS.

Expense vouchers attached	$1,900.95
Commissions	123.89
Interest and discounts	34.26

ASSETS.

Furniture	$ 96.66
Accounts receivable	919.16
Cash in hand	17.19
	$3,092.11

It was moved by Dr. Glover, and seconded, that the reports be received and referred to an auditing committee. Carried.

The President appointed Drs. John MacDiarmid and John Helms to serve as an Auditing Committee.

The following reports of Councillors were submitted:

Councillor's Report for First District.

PENSACOLA, FLA., MAY 14, 1917.

The Escambia County Medical Society has enjoyed an unprecedented year of prosperity and usefulness, and in common parlance, is one of the livest wires in the State Association. Bi-monthly meetings are held, and the attendance is usually good. Interesting papers are read and freely discussed, and anatomical specimens exhibited.

It was my pleasure to meet with the Walton County Medical Association on November 24, 1916. While this society is not a large one, the proper spirit was evident throughout the meeting, and much good is being done for organized medicine.

The Santa Rosa County Medical Society, the remaining one in the district, is doing fine work, and its report to the Association will speak for itself. A favorable opportunity for visiting this society was not found by the Councillor.

Respectfully submitted,

J. HARRIS PIERPONT,
Councillor.

Councillor's Report for the Third District.

LIVE OAK, FLA., MAY 18, 1917.

MR. PRESIDENT, AND GENTLEMEN OF THE HOUSE OF DELEGATES OF THE ASSOCIATION—This report will cover the activities of the District Councillor of the Third District for the past eighteen months, as I was unable to render any report at the last meeting of this Association.

Dr. C. S. Brown, of Live Oak, whose term as Councillor I am completing, died the first part of last year. I was asked by the President to take up his work in March, 1916, but was not able to report any progress at the 1916 meeting.

The Third District is composed of six counties, namely, Columbia, Madison, Taylor, Lafayette, Hamilton and Suwanee. At the beginning of this year there were only two County Societies in the district—the Columbia County Medical Society and the Suwanee County Medical Society. Today, I am glad to report that we have five active county societies in the district, new societies have been organized in Madison, Taylor and Lafayette counties; only one county,

Hamilton, is without a county society; however, conditions in this county are such, with the two largest towns quite a long distance apart, that it was thought best by the resident physicians of this county that it would be best for the physicians living at Jasper to join with the Suwanee County Society at Live Oak, while the members of the profession at White Springs join with the Columbia County Society at Lake City.

The number of county units have increased in the past year 150 per cent, the membership has increased something over 100 per cent, and practically 50 per cent of the physicians in the district are affiliated with organized medicine.

The Columbia County Society, with Dr. L. M. Anderson as President and Dr. J. P. Long as Secretary and Treasurer, has maintained its record of usefulness. The meetings are both instructive and social in their nature. The physicians of White Springs, Hamilton county, are affiliated with this society.

The Madison County Society was organized last September, with Dr. L. C. Ruter as President, Dr. T. H. Bates, Secretary and Treasurer. While a new society, it started out well, with a large and representative membership among the best physicians of this county.

The Taylor County Society was organized in March of this year. They are a new society, but are active and will, I am sure, maintain a strong and useful unit in this county.

The Lafayette Society, at Mayo, is the youngest society in the district, maybe in the State. The President is Dr. J. M. Anderson, with Dr. J. A. Hague as Secretary and Treasurer.

This society was organized in April, with a rather small membership, but what they lack in numbers they make up in enthusiasm. It is composed of young men who are active and well-trained physicians, and who represent all that is highest and best in the medical profession. I don't believe that I was ever associated with a more congenial and pleasant body of men than the Lafayette Medical Society.

In regard to the Suwanee County Medical Society, I regret to say that this society, during the past year, did not have a single meeting, although in 1915 this society was active and useful.

In the 1916 election of officers the personal political ambitions of some of the members were allowed to overshadow the need and usefulness of the society, and as a result the society ceased having meetings and to exist in any sense of usefulness.

In April of this year, a majority of the local physicians who desired an active society, met for the purpose of reorganizing the society, and elected Dr. J. W. West, President; Dr. H. M. Strickland, Vice-President; Dr. W. C. Page, Secretary and Treasurer, and since that time this society has been active, holding regular meetings, with both social and instructive features. The society numbers about twelve members, but will gradually increase in membership as well as usefulness to its members.

Unfortunately, a few of the physicians in the county do not approve of the steps taken, and are opposed to an active society, and have organized a rival organization. The merit of their claim is up to the Executive Committee of this Association.

As I said before, the county societies in this district have increased 150 per cent in the past year, the membership has increased about 100 per cent; however, only about half of the physicians in the district are members of organized medicine, and to get these, our brothers, in the folds of the organization should be our next effort.

My term expires, as District Councillor, at this meeting, and I take this time to render my thanks to the State officers, and especially to the State Secretary, for their uniform courtesy to me and their help in obtaining such success as I have been able to report.

Respectfully submitted,
W. C. Page, M. D.

Upon motion of Dr. Graham E. Henson, duly seconded, the organization of the House of Delegates was proceeded with, the following organization being effected:

Alachua—J. H. Hodges and G. M. Floyd.
Bay—J. A. Wells.
Dade—H. C. Babcock and J. G. DuPuis.
DeSoto—J. A. Simmons.
Duval—J. D. Boyd, F. J. Waas, G. R. Holden, J. H. Pittman and W. E. Ross.
Hillsboro—L. S. Oppenheimer, J. B. Wallace, W. P. Adamson and John S. Helms.
Jackson—D. A. McKinnon, C. H. Ryalls.
Jefferson—G. B. Glover.
Lake—M. M. Hannum.
Leon-Gadsden—E. M. Brevard.
Madison—George E. Davis.
Manatee—H. Gates.
Marion—H. C. Dozier and E. Van Hood.
Monroe—W. R. Warren.
Orange—C. D. Christ.
Pasco—H. W. Wade.
Polk—R. R. Kime.
Putnam—J. E. Goethe.
Sumter—H. S. Cherry.
Suwanee—
St. Johns—E. S. Estes.
Volusia—John Reeve, C. C. Bohannon.
Walton—C. C. McKinnon.

The Secretary announced the presence of contesting delegates from Suwanee county, and moved that the matter be referred to the Executive Committee for recommendation. The motion was duly seconded and carried.

Upon motion the House adjourned until 2 p. m.

2 P. M.

The Association was called to order at 2 p. m. by Dr. C. D. Christ, acting Chairman of the Committee on Scientific Work, the following papers being read:

"Advantages of the Proper Handling of Acute Appendicitis," Edward Jelks, M. D., Jacksonville. Discussed by Drs. Mary Freeman, Perrine; John S. Helms, Tampa; W. R. Warren, Key West, and H. C. Dozier, Ocala.

"Cancer," F. F. Ferris, M. D., Apalachicola. Discussed by Drs. Boyd, Jacksonville; J. B. Black, Jacksonville; Gates, Bradentown; L. W. Cunningham, Jacksonville; Mary Freeman, Perrine; C. P. Rogers, Jacksonville; J. G. DuPuis, Lemon City.

"Gallstone Disease," John E. Boyd, M. D., Jacksonville. Discussed by Drs. H. C. Dozier, Ocala; Seale Harris, Birmingham.

"Factors in the Union and Use of Traction Suture Plates in Abdominal Incisions."

"The Early Diagnosis and Home Treatment of Tuberculosis," R. H. McGinnis, Jacksonville.

"Segregation and Public Sanitariums for Tuberculosis," C. B. McKinnon, M. D., DeFuniak Springs.

The two preceding papers were jointly discussed by Drs. Mary Freeman, of Perrine, and Seale Harris, of Birmingham.

The Association adjourned at 5 p. m.

The House of Delegates was called to order by the President at 5 p. m.

The Executive Committee submitted the following report concerning the contesting delegations from Suwanee county:

Mr. President and Gentlemen of the House of Delegates:

Your Executive Committee, to whom the Suwanee County Medical Society matter was referred this morning, beg leave to report that we recognize the older and regular Suwanee County Medical Society, because it has been a member of the Florida Medical Association since the reorganization of the Association under the American Medical Association plan about fifteen years ago.

We recommend that the reorganized body of physicians of Suwanee county affiliate with the older and regular society and attempt active organized work until the annual meeting in 1918, and that this annual meeting be called by the older and regular society in January, 1918, for the election of officers of the society and delegates to the State Association meeting, and that every member of the older and regular reorganized societies be notified in advance of the date of the said annual meeting, and that this Association recognize two delegates from Suwanee county with a half vote each at this meeting.

Respectfully submitted,

R. H. McGinnis,
John MacDiarmid,
Ralph N. Greene.

It was moved by Dr. Graham E. Henson, and seconded, that the recommendation of the Executive Committee be adopted and that Dr. T. S. Anderson and Dr. P. H. Brigham be seated each with the privilege of a half vote. Carried.

It was moved by Dr. Graham E. Henson, and seconded, that the Executive Committee be given seats in the House of Delegates. Carried.

The report of the Executive Committee was taken up seriatim.

Upon motion duly seconded, the recommendation of the Executive Committee that the membership dues be divided equally between the Association and The Journal was unanimously adopted.

The recommendation that the Secretary-Editor be bonded by a surety company in the sum of $500.00, after discussion in which the Secretary stated that it was upon his own suggestion that the Executive Committee make this recommendation, was adopted.

A plan of the American Medical Association to place a man in the State in the interest of organized medicine was explained by

the Secretary, discussed, and upon motion duly seconded, unanimously adopted.

It was moved that the recommendation of the Executive Committee authorizing the Secretary to have a number of copies of the Constitution and By-laws printed be adopted. Carried.

At this point considerable discussion arose concerning the matter of reimbursing Mr. Burton for funds expended in the interest of organized medicine and in certain proceedings against the Eclectic Board of Medical Examiners. After considerable discussion, a motion prevailed authorizing the Executive Committee to arrange the details of reimbursing Mr. Burton and certain members of the Association for funds advanced in connection with this matter.

The House of Delegates adjourned subject to the call of the Chairman.

8 P. M.

The Association was called to order at 8 p. m. by the President, who delivered his annual address. The following papers were then read:

"Bacteria in the Economy of Nature," Hiram Byrd, Princeton.

"Diagnosis and Prognosis of Gastric Duodenal Ulcers" (illustrated with lantern slides), Seale Harris, M. D., Birmingham, Ala.

"Roentgen Diagnosis of the Gastro-Intestinal Tract," L. W. Cunningham, Jacksonville.

It was moved by Dr. Graham E. Henson, and seconded, that the Association express an appreciation to Dr. Seale Harris, of Birmingham, Ala., for his address, and that the Association tender him their thanks by a rising vote. Carried. The Association adjourned.

SATURDAY, 9 A. M.

The Association was called to order at 9 p. m. by Dr. W. E. Ross, acting Chairman of the Scientific Committee, the following papers being read:

"Creeping Eruption," J. L. Kirby-Smith, M. D., Jacksonville.

"The Value of Fresh Cow's Milk in Infant Feeding as Compared With Artificial and Sterilized Milk," J. G. DuPuis, M. D., Lemon City.

"Our Neglect of Scientific Massage and the Reason Osteopaths and Chiropractors Exist," F. J. Walter, Daytona. Discussed by Drs. Mary Freeman, Perrine; W. E. Ross, Jacksonville; C. D. Christ, Orlando.

"Calculus Anuria; Report of a Case, With Operation," H. A. Peyton, M. D., Jacksonville. Discussed by John S. Helms, Tampa.

Dr. E. W. Warren assumed the chair and announced that the hour had arrived for the election of officers and such other business as might come before the Association.

The President called for nominations for the office of President. Dr. C. D. Christ placed in nomination the name of Dr. Ralph N. Greene; the nomination was seconded by Drs. George B. Glover and John MacDiarmid.

It was moved by Dr. Graham E. Henson, and seconded, that the nominations be closed and that Dr. Ralph N. Greene be declared the unanimous choice of the Association by a rising vote. Carried.

The retiring President appointed Drs. A. H. Freeman and John MacDiarmid a committee to escort the newly-elected President to the chair. Dr. Greene made a few appropriate remarks thanking the Association for the honor conferred upon him.

Dr. F. J. Walter, upon recognition from the Chair, presented the retiring President with a Past President's button.

President Greene called for nominations for the office of First Vice-President.

The name of Dr. H. C. Dozier was placed in nomination for the office of First Vice-President. Upon motion, duly seconded and carried, the nominations were declared closed, and the Secretary authorized to cast the ballot of the Association of Dr. Dozier; the Secretary cast the ballot.

The name of Dr. D. A. McKinnon was placed in nomination for the office of Second Vice-President. Upon motion, duly seconded and carried, the nominations were declared closed, and the Secretary authorized to cast the ballot of the Association for Dr. McKinnon; the Secretary cast the ballot.

The name of Dr. Henry Hanson was placed in nomination for the office of Third Vice-President. Upon motion, duly seconded and carried, the nominations were declared closed, and the Secretary authorized to cast the ballot of the Association for Dr. Hanson; the Secretary cast the ballot.

The President then called for nominations for the office of Secretary-Editor and Treasurer.

Dr. W. P. Adamson placed in nomination the name of Dr. Graham E. Henson for Secretary-Editor and Treasurer. The nomination was seconded by Drs. John MacDiarmid, E. W. Warren, G. B. Glover and Seale Harris. There being no other nominations, upon motion duly seconded, Dr. Graham E. Henson was declared Secretary-Editor and Treasurer by a rising vote of the Association.

Dr. Henson made a few remarks expressing his appreciation of the honor conferred upon him, and expressed his thanks to the officers of the Association, to his Associate editors and to the collaborators of THE JOURNAL for the very material assistance received by him in the prosecution of his work.

The following gentlemen were elected unanimously to serve as Councillors for a term of four years in their respective districts: F. F. Ferris, Apalachicola, Second District; W. C. White, Third District; W. R. Warren, Key West, was elected to succeed himself as Councillor of the Eleventh District.

The President announced that the next order of business was the selection of the next meeting place.

Dr. M. E. Heck, of St. Augustine, extended an invitation from the St. Johns County Medical Society to meet at St. Augustine.

Dr. R. R. Kime presented an invitation from the Polk County Medical Society for the Association to meet at Lakeland. The Secretary read an invitation from the Chamber of Commerce of Lakeland to meet in that city.

Dr. William J. Buck, of Gainesville, extended an invitation from the Alachua County Medical Society for the Association to meet in Gainesville.

Dr. L. S. Oppenheimer, in behalf of the Hillsboro County Medical Society, extended an invitation for the Association to meet at Tampa.

Upon motion of Dr. Graham E. Henson, duly seconded, the privilege of the floor was extended to Mr. H. M. Stanford who invited the Association to meet at Atlantic Beach.

Upon motion, duly seconded, it was agreed that the two places receiving the largest number of votes remain on additional ballots. Upon the first ballot Atlantic Beach and Tampa received the two largest votes, Tampa being selected as the next annual meeting place upon the second ballot.

The Secretary read the following resolutions:

MEMORIAL FOR NATIONAL PROHIBITION.

In view of the scientifically proved unfavorable effects of the use of alcoholic beverages even in small quantities;

And in view, therefore, of the colossal physical, mental, moral, economic, social and racial evils which the manufacture and sale of alcoholic liquor entail;

And in view of the inadequateness of all methods hitherto employed to check or regulate these evils;

And in view of the great and rapid growth of public knowledge and sentiment on this subject as shown by anti-alcohol agitation and legislation through most of our national area:

The Florida Medical Association believes the time has come for the Federal government to take steps looking to the prohibition in the United

States of the manufacture, sale, import, export and transport of alcoholic liquors;

Therefore, be it *Resolved*, by the session of 1917 assembled at Atlantic Beach of the Florida Medical Association, That it place itself upon record as favoring the above views, and that a copy of this Memorial be sent to Congress, and be spread upon the minutes of our Association.

Dr. Graham E. Henson moved the adoption of the resolutions. The motion was duly seconded. Dr. C. D. Christ moved as an amendment that the resolutions be tabled; the amendment was duly seconded; upon vote of the Association the amendment was lost. The original motion providing for the adoption of the resolution was then voted on and carried by a decisive vote.

Doctor John MacDiarmid read the following resolution:

WHEREAS, Dr. Joseph Y. Porter, who has served the State of Florida so long and so faithfully in the capacity of State Health Officer, has recently resigned to serve the State and nation in the larger sphere of a medical officer of the United States Army in our war of defense for humanity against the Teutonic allies; and,

WHEREAS, Dr. Porter's services have been of incalculable value to the State in the prevention of disease, the conservation of health and the prolongation of life of our citizens; and,

WHEREAS, We, his fellow practitioners of medicine, probably know better than others the obstacles he has surmounted, and the difficulties he has overcome and appreciate, perhaps, more than others the spirit that has animated him in fearlessly facing the dangers incident to the physician and sanitarian in the discharge of duties during epidemics, therefore, be it

Resolved, That the Florida Medical Association, in convention assembled, tender Dr. Porter a vote of thanks for his having so "well done" during his thirty years' service to the State of Florida;

Resolved, That we recommend to his successor in office and to all physicians his true patriotism, his unflagging energy and his unswerving integrity to duty;

Resolved, That a copy of these resolutions be spread upon the minutes of this Association, and a copy furnished the press for publication.

Dr. G. B. Glover moved the adoption of the resolutions by a rising vote of the Association. The motion was duly seconded and adopted by a rising vote.

Dr. Graham E. Henson moved that Section 2, Chapter 4 of the By-laws of the Association reading:

Each component county society shall be entitled to send to the House of Delegates each year one delegate for every 20 members, and one for each fraction thereof, but each County Society holding a charter from this Association, which has made its annual report and paid its assessments as provided in this Constitution and By-laws, shall be entitled to one delegate.

Be amended to read:

Each component County Society shall be entitled to send to the House of Delegates each year one delegate for every 20 members, and one for each fraction thereof, but each County Society holding a charter from this Association, which has made its annual report and paid its assessment as provided in this Constitution and By-laws, shall be entitled to one delegate. Provided, further, that the Executive Committee be entitled to seats in the House of Delegates.

In accordance with the Constitution and By-laws of the Association the proposed amendment was laid upon the table for action at the next annual meeting.

Upon motion of Dr. John MacDiarmid, duly seconded and carried, the Secretary was directed to send the following telegram to President Woodrow Wilson:

ATLANTIC BEACH, FLA., MAY 19, 1917.

Hon. Woodrow Wilson, President United States, Washington, D. C.:

We, the members of the Florida Medical Association representing six hundred physicians of Florida, in convention assembled, do hereby heartily approve of your declaration of war for the cause of justice, liberty and humanity, and pledge to you our active cooperation.

Dr. John Helms moved the adoption of the following resolution:

Resolved, That The Florida State Medical Association becomes incorporated under the laws of the State of Florida, and that a committee of three of its members be appointed by the President for the purpose of carrying out this resolution with full power to act.

The motion was duly seconded and carried.

The committee appointed by the President to audit the accounts of the Secretary-Editor and the Treasurer submitted the following report:

We, the committee appointed to audit the books and accounts of the Secretary-Treasurer-Editor, beg leave to report that we find his accounts and all matters relative thereto correct.

(Signed) JOHN MACDIARMID,
JOHN A. HELMS.

Dr. John MacDiarmid submitted the following report as delegate to the 1916 meeting of the American Medical Association:

DELAND, FLA., MAY 1, 1917.

Mr. President and Members of the Florida Medical Association:

The Detroit session of the American Medical Association was the third largest in point of attendance that the Association has ever had. The registration was 4,568.

Detroit, the Automobile City, most cordially greeted the visiting physicians. Wherever and whenever any of us wished to go, on business or pleasure, experienced chauffeurs were at our service and all we had to do was to "get in and ride."

The House of Delegates was called to order at 10.15 a. m., June 12th, by President Albert Vander Veer, of Albany, N. Y. In his address to the House he referred feelingly to the late Dr. William L. Rodman, who had recently died while President of the American Medical Association.

President Vander Veer dealt at some length with the activities of the Association in the matter of medical preparedness, calling attention to the strong organization the American Medical Association has in connection with the Red Cross work.

The Secretary reported the membership of the Association on May 1, 1915, to be 42,366, and on May 1, 1916, 43,181, a net increase of 815 for the year.

The report of the Treasurer showed a slight loss instead of a gain. Expensive lawsuits, forced upon the Association by certain "patent medicine" concerns, caused this unusual condition. Otherwise a handsome surplus would have shown to our credit.

Permit me to quote from the report of the Board of Trustees: "In considering the work of the Association as a whole, what it has accomplished in the past and the promise of the future, one is filled with a sense of pride in being a member of the body. This work, while of benefit to the profession, extends much wider than this and benefits the nation. It is only by means of the organization of the profession, so that its combined force is at the back of these reforms, that this work is possible. And may we not say that the Association has accomplished this task of uniting the medical profession? There never has been a time when it has been so free from faction. And the great idea on which this unity is based is that of service."

In commenting on the work of the Council of Pharmacy and Chemistry, the Trustees reported that: "The work of the Council has reached a stage when little more can be done by the efforts of the Association as a whole; the continuance of the work and the final accomplishment depends on the individual members. There is much evidence that the individual members of the profession are prescribing and using the very substances which, as a combined body, they condemn, and many of the journals which they support, advertise and recommend these substances. There are many reasons for this, but none of them creditable. The first is the financial power of the interests of the manufacturers and its influence on medical journals. This is a constant positive pressure; that opposing is inconstant and negative. The leading lay publications of the country show cleaner advertising pages than many of the medical journals. The second is due to a credulous order of mind not capable of distinguishing evidence from mere statement, and rendering its possessor an easy victim to the lures of the promoter. The third is indolence, which finds it easier in treating patients to follow advice given in advertisements of proprietary drugs than to undertake the arduous task of ascertaining the condition of the patient and to base thereon a sound scientific therapeutic treatment. No great progress can be made until the individual member of the medical profession awakes to the fact that the remedy against fraudulent proprietary medicines lies in his own hands—until the profession resolves to believe rather the evidence which is presented by the scientific investigation of the substances than the biased statements of the agents, whether presented by word of mouth or by advertisements."

In the report of the Judicial Council it was recommended that the House of Delegates take up the question of the election of a Speaker of the House of Delegates as submitted at the San Francisco session in 1915. The question was discussed with the result that an amendment to the Constitution and By-laws was adopted creating the offices of Chairman and Vice-Chairman of the House of Delegates, to which offices Drs. Hubert Work, of Pueblo, Colo., and Dwight H. Murray, of Syracuse, N. Y., were later respectively elected. This will, undoubtedly, expedite the business of the House.

The Judicial Council also recommended that: "No member of the House of Delegates shall be eligible to the office of President or Vice-President, nor shall a member of the Board of Trustees

be eligible for election to any other elective office, the term of which runs concurrently with the term for which the said Trustee has been elected." This was adopted and is now a law.

The Council on Health and Public Instruction reported progress on the program outlined in 1914 which includes among other difficult problems: "Education of the public by every possible means in order that the people may understand the enormous advances in scientific medical knowledge during the last generation and the possibility of utilizing such knowledge in the prevention of disease, the reduction of the death rate, and the prolongation of human life."

This Council reported progress also on the three digests that are being prepared—these are "the digest of the Supreme Court decisions with reference to malpractice, the digest of the Supreme Court decisions on the medicolegal relations of physicians, and the digest of Supreme Court decisions on the powers and duties of State boards of health."

One of the sub-committees of this Council, the Committee on Social Insurance, made a voluminous report on social insurance in different countries in Europe, and presented a tentative draft of the health insurance act which, perhaps, with certain modifications will ere long be the health insurance law of the United States.

The Council on Medical Education reported that during the eleven years ending 1915, the number of medical colleges in the United States was reduced from 162 to 95, of which 30 or 40 will compare favorably with the medical schools of any other country. Greatly to be deplored, however, is the fact that so-called "colleges" and "schools" exist in many States which issue diplomas to practice some specialty of the healing art, thus creating "doctors" for a cash payment of a few hundred dollars or by taking a three weeks' correspondence course in "Somepathy." Illinois is, at present, the greatest sinner in this respect. Let us hope and see to it that Florida has amputated the last gangrenous member of these dangerous institutions.

The time of the House of Delegates, from Monday morning until Thursday afternoon, was fully occupied in sifting and discussing the reports of committees, sub-committees, and reference committees, some of which had worked diligently for a year, and even several years, so that I may say that while this report is rather lengthy, yet I have touched only a small portion of the outer fringes of the proceedings of the House.

I am sorry that only 236 members of our profession in Florida are Fellows of the American Medical Association, and that only 168 of us subscribe for *The Journal A. M. A.*, which gives in detail most of what our great Association is doing and striving to do. "The careful reading of *The Journal* will keep a man fully informed of the advance in medical knowledge and gives him the stimulus which comes from the relation of research."

JOHN MACDIARMID.

Upon motion, duly seconded, the general Association adjourned.

2 P. M.

The Association was called to order at 2 p. m. by Dr. C. D. Christ, acting Chairman of the Committee on Scientific Work, the following papers being read and discussed:

"The Responsibility of the General Practitioner to the Mentally Defective," George B. Coon, M. D., Tampa.

"Some Remarks on the Treatment of Dementia Præcox," Ralph N. Greene, M. D., Jacksonville. The two preceding papers were discussed by Drs. Mary Freeman and L. S. Oppenheimer.

"The Indications and Abuse of Cesarian Operations," F. J. Waas, M. D., Jacksonville. Discussed by Drs. Kime, Lakeland; W. W. MacDonnell, Jacksonville; R. F. Hotard and John D. Boyd, Jacksonville.

"Blood Pressure," James V. Freeman, M. D., Jacksonville. Discussed by Drs. W. E. Ross, Jacksonville; E. W. Warren, Palatka.

"Post-Operative Phlebitis," Frederick J. Bowen, M. D., Jacksonville. Discussed by Drs. F. J. Waas, Jacksonville; C. D. Christ, Orlando.

"Operative Treatment of Uterine Prolapse," G. R. Holden, M. D., Jacksonville. Discussed by Drs. Carey P. Rogers, Jacksonville; R. R. Kime, Lakeland; John A. Simmons, Arcadia.

"The Sigmoid," Marvin Smith, M. D., Jacksonville.

Upon motion the Association adjourned *sine die*.

ORIGINAL ARTICLES

GALLSTONE DISEASE.*

JOHN E. BOYD, M. D.,
Jacksonville, Fla.

Gallstone disease has been known about for a long time, but it is only since about 1867 that medical men recognized the existence of the disease without the presence of gallstones in the feces. Botts started the ball rolling in 1867; then Marion Sims and Lawson Tait added further impetus in 1878. In 1882 Langenbuch added more data, which was amplified by Charles T. Parks in 1885, and a few years later the final operation of importance was developed by McBurney. All these men awaited the two symptoms—gallstone colic and jaundice—to make a diagnosis. Today neither of these so-called classical symptoms are essential to a correct diagnosis; in fact, by leading clinicians they are considered as more or less evidence of neglect.

Gallstones are the result of a mycotic infection of the mucous membrane of the bile tracts. Now as to the causes of this mycotic infection, the colon bacillus probably heads the list; then the typhoid bacillus and pus organisms of a lower degree of virulence. It is now admitted that virulent infections of the gall bladder do not produce gallstones. The infection must be of a low grade and not necessarily pus-producing. Aseptic gallstones are referred to by some authorities and in these cases the exciting factor is of a chemical and not a mycotic inflammation.

Ninety-eight per cent of all gallstones are formed in the gall bladder, and 98 per cent of their substance is cholesterin, which is soft and putty-like. A shell of bilirubin calcium and biliverdin calcium and carbonated calcium makes the hardness. Single stones in the gall bladder are usually oval or round; multiple stones are faceted. Stones found in the ducts are nearly always oval or round.

Gallstones produce trouble: (1) Most often in the gall bladder, and it is these cases where the patient has pain in the gall bladder, often without colic, and the pain may be recurrent for years; (2) where the stone passes into the cystic duct and is larger than the duct, where it gives rise to typical colic *without jaundice* and there may be recurring colics without jaundice, for years, just so long as the stones remain in the cystic duct; (3) when the stone passes into the common duct, then for the first time we have jaundice which continues as long as the stone obstructs. While bile passes around the stone, the jaundice, as a rule, slowly subsides to a mild bronzing which might persist for months or years, until the stone commences to move when the cycle of colic with jaundice is repeated, due to the obstruction of the swollen mucous membrane. If the stone in the common duct happens to be of angular shape and allows the bile to pass by freely, there is no bronzing of the skin at all.

Gallstones only commence to give trouble when they endeavor to escape from the gall bladder or when an active infection is added to the low-grade one already present, and a severe mixed infection is the result—one which causes an extensive secretion of fluid, often of pus, into the gall bladder. They further commence to make trouble when the infective products in the gall bladder attempt to escape by the contraction of the gall-bladder walls, due to irritation, and the stones are carried forward and occlude the gall-bladder neck, the cystic duct, or the common duct. Or again, the gall bladder may rupture and the infective products escape into the neighboring structures, into the duodenum, into the colon, into the stomach, and occasionally into the free peritoneal cavity,

*Read before the forty-fourth annual meeting of the Florida Medical Association, at Atlantic Beach, May 18, 19, 1917.

or at times an abscess is formed which may rupture.

When a stone passes out of the gall bladder into the cystic duct, the symptomatic, in fact almost pathognomonic, manifestation is colic, which colic continues during the passing of the stone. As long as the stone remains stationary in the cystic duct, or as long as it remains in the gall bladder, there is no colic and no jaundice.

In the order of their appearance, the symptoms of gallstone disease are pain, nausea and vomiting, local sensitiveness, elevation of temperature, when infection is present, and jaundice when the stone passes into the common duct and obstructs the lumen.

Jaundice is usually a late manifestation of gallstone disease. It occurs in only about twenty per cent of the cases, and even with one or more stones in the common duct, only in about thirty-three and one-third per cent.

If, while the stone is still in the gall bladder, there occurs an associated infection, the patient may have a temperature of 101° to 102° with actual gangrene of the gall bladder, but when the stone passes out of the gall bladder into the cystic duct and becomes arrested in the cystic duct and infection occurs, he will have chills and, as a rule, high fever, sometimes recurrent, simulating typical or atypical types of malaria. The gall bladder may be full of pus for weeks, months, or even years, and the temperature never reach 100° F. This is due, of course, to the sparse lymphatic network in the wall of the gall bladder. This network soon becomes infiltrated and absorption, therefore, cannot take place. When a stone works into the cystic duct, pressure is produced and erosion or ulceration of the mucosa results; the pus is absorbed readily, due to the rich lymphatic network here, and the patient has chills and fever.

In still another class of cases where the stone has passed into the common duct and there is an associated infection, the patient will have pain, nausea and vomiting, sensitiveness to gall-bladder percussion of the perpendicular type, chills and fever and jaundice.

John B. Murphy laid down the following law: "A jaundice preceded by a colic is always a foreign-body jaundice. A jaundice that is not preceded by a colic is never a gallstone jaundice, but is caused by a lesion of the pancreas, by a tumor from without obstructing the bile by pressure, or an infection within causing such a swelling of the mucosa as to occlude the lumen of the duct." This is a valuable axiom that should be remembered at all times.

The colic caused by gallstones is not due to the fact that bile is retained in the biliary passages and ducts. It is caused by a moving body in them, and the colic is present only while the foreign body is in actual transit, never after it is arrested for a considerable time.

It is estimated that about 10 per cent of all adults have gallstones. It is also further estimated that only about one in ten of these ever have manifestations of the presence of stones. The symptoms produced are relative to the presence of a foreign body in one of the positions previously mentioned. While stones remain in the gall bladder undisturbed, the rule is they give little or no trouble. As soon as they are disturbed, they give trouble in many ways. First and foremost is their dislodgement or displacement in the attempt to pass into the neck of the gall bladder and out of the gall bladder into the common duct. Secondly, disturbances are produced by the secondary deposit of infective material around the stones, or on the surface of the gall bladder, which is already irritated by the stones. Third, disturbances are produced by the increase of secretion from this secondary infection, the secretion forcing the stones out or carrying them out with it through the neck of the gall bladder into the cystic duct. They further produce trouble as they are carried on from the cystic duct to the common duct and from there into the intestines.

When gallstones are not impacted in the gall bladder, nor is there any infection present, the only manner in which they can produce trouble is by their mechanical presence. When the stones are impacted and infection is present, they give trouble by the irritation they cause as well as by the absorption from the infection. The manifestations are great or small, depending on whether or not the contents of the gall bladder are held under high tension by impaction of a stone in the cystic duct, or whether it is an infection of the gall bladder with virulent microorganisms, which is associated with chills and fever, edema and swelling of the mucosa of the cystic duct, and makes the patient very ill; or whether it is infection and ulceration of the neck of the gall bladder from the impaction of a large stone, or whether there is retention in the neck of the gall bladder without infection, gradually increasing the quantity of seromucous material in the gall bladder under pressure, thereby producing continued disturbance of the gall bladder.

The order of symptoms in gallstone disease is practically the same as in appendicits, except that the sensitiveness is in an entirely different position. In making the test for sensitiveness in this disease, perpendicular percussion as practiced by the late Dr. Murphy, of Chicago, takes precedence over all others. Next in importance is the inability of the patient to take a deep breath with the fingers hooked under the right costal arch.

This article could be lengthened beyond time limit by a discussion of the digestive disturbances occurring in gallstone disease. Suffice it to say that every patient coming to the physician complaining of indigestion deserves careful consideration and a thorough examination, and gallstones as the possible causative pathology should never be forgotten.

A discussion of the treatment is unnecessary. The only responsibility is the physician's, and he ought to insist on surgical interference at the earliest time to save the unnecessary complications and sequelæ to the patient as well as save his own reputation.

ROENTGEN DIAGNOSIS OF THE GASTROINTESTINAL TRACT.*

L. W. Cunningham, M. D.,
Jacksonville, Fla.

There are still many skeptics as to the value of a Roentgen examination of the gastrointestinal tract, but they are becoming less numerous. The whole of the "Direct Evidence" school which we represent in America depend for their deductions on a definite change in the contour of the elastic organs and a constant change from the normal.

The most information to be gained in a survey of the gastrointestinal tract is by fluoroscopy and palpation.

With the use of large quantities of a pure barium sulphate, we can get contrasts on the fluorescent screen as clear as the image on the plate. This added to palpation gives information that cannot be secured in any other way.

First of all we must consider that any abdominal lesion will usually refer its symptoms to the stomach and that the stomach becomes the "storm centre" of the abdomen. Gallstones, gall-bladder disease, duodenal ulcer, or adhesions in the duodenohepatic region, chronic appendix, or any lesion along the tract and even in some instances stone in the kidney, and also not to be overlooked pulmonary disease, may have referred symptoms to the abdomen and stomach.

There is no preparation as we wish to give a barium meal and approximate as near as possible normal conditions. No purging; rather it should be avoided. We wish to test the motility of the tract and if we purge, the

*Read before the forty-fourth annual meeting of the Florida Medical Association, at Atlantic Beach, May 18, 19, 1917.

peristalsis is changed for some days afterward.

Our custom is to use the double Haudek meal, giving the primary meal of 8 to 12 ounces of barium sulphite in one pint of buttermilk or other medium that will suspend it at 6 or 7 a. m. The patient is to eat nothing or drink nothing, and report at the office five hours later. The presence of a residue at this time would indicate further observation to see what the emptying time is. A delay at 6 or later indicates either atony or some obstructive lesion either through the diminution of the calibre of the pylorus or due to pylorospasm. This residue, if found, is a valuable contributory evidence and is to be taken with the other evidence found later.

At the first observation we get an idea of the motility of the stomach, the position of the food in the large and the small bowel, and occasionally at this time see the appendix, although it is usual to outline it later.

If there is a residue, the size, the shape and the position of it may indicate the lesion present, or it may be secondary.

We then give the second meal and may make it a heavier percentage of barium if the patient is heavy, and watch the food pass down the esophagus and see if there is any cardiospasm or deviation from the normal in the esophagus. Also at the same time the movements of the lungs and diaphragm are observed and whether there is any abnormality of the heart vessels.

We next see the barium meal in the stomach and observe it sufficiently to see the type, the position, the motility, the contour and the motor force, and in particular the contour of the stomach, the pylorus and the duodenum. An organic lesion is indicated by a definite change in the contour and is constant and not transitory. What seems an incisura due to ulcer will, after sufficient observation, resolve itself into a contraction wave. If incisura is found, it should always be looked on with suspicion and be confirmed after the administration of atropine to full physiological effect. If still present after the use of atropine, it indicates that we are dealing with organic lesion and not simple or secondary spasm.

The presence of fixation of the right half of the stomach, high up on the right, indicates hepatic fixation and most likely gallbladder disease, while it may be in the duodenum or the pylorus and the adhesions may be secondary.

A constant delay in the small bowel would suggest obstructive lesion, new growth, adhesions, diverticulitis.

Our most likely point to find a lesion is the ileocecal region. Here we can, after several confirmatory observations, be sure that there is fixation of the cecum, the terminal ileum and the appendix, and this sureness can be further confirmed with the barium enema. Palpation is the means by which we are sure; the lead protected hands being used to manipulate the organs and move them about and see clearly their relations. To show the possibility of manipulation, let us take the following example: In the slender individual we expect to find the cecum and the transverse colon in the pelvis. It will usually be impossible to manipulate the cecum and ascending colon out of the pelvis as it is pinched over the brim of the pelvis, but by turning them upon the abdomen, with lowering of the head, we can run the cecum and terminal ileum up several inches. Then placing the patient upon the back, have easy access to the relations of the ileocecal region.

The barium enema is most important and should always be given as a routine measure, as very often the colon cannot be seen in continuity with the meal. With a heavy percentage barium enema the fluid is allowed to flow in slowly under direct screen observation and each inch is seen to fill clearly, and an obstructive lesion, spasm or atony can be clearly seen. Often it is a question whether the transverse colon is adherent in the pelvis, and this can be

cleared by palpatory flouroscopy, if sufficient attempts are made.

This work must be done very carefully, and any evidence not convincing must be covered again, and still again if necessary. At times, due to the fact that we are dealing with elastic organs and that the tonus of them varies under normal conditions, it means several confirmatory observations must be made to settle the diagnosis.

Flouroscopy today is perfectly safe for the patient and, I believe, also for the operator. We use a medium voltage, giving a quality of hard, just hard enough to penetrate the tissues, and moderate milliamperage which is filtered through aluminum for protection to the patient. Also we use what is popularly called the fluoroscopic current, which allows of more milliamperage, but the same dose of ray to the patient and greater illumination on the screen. At times we make repeated flouroscopic observations and without any thought of the time, and have seen no effects on the patient.

Due to the fact that we make practically no plates and depend on fluoroscopy, I have no slides to exhibit, but will show on the blackboard what I mean by definite changes in the contour and relations of these organs.

THE PROPHYLAXIS OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.*

Graham E. Henson, M. D.,

Jacksonville, Fla.

If we will consider syphilis as a possible factor in all obscure conditions that may come under our observation for diagnosis, it is remarkable in what a large number of instances an incipient syphilis of the central nervous system may be demonstrated. In no branch of medicine has diagnosis and treatment made such rapid advancement in the past decade as in syphilis, for with the introduction of the Wassermann serological test as a diagnositic aid and salvarsan as a therapeutic measure, together with the more modern methods of administering mercury, the disease may now be safely classed as a controllable one. Slipshod methods in both diagnosis and treatment are, however, still too prevalent if society is to receive the full benefit of measures now at our disposal for the proper control of the disease. Another factor deserving of our serious consideration is the indifference of the laity to the gravity of luetic infections. In a study of 510 cases of syphilis, Thomas[1] reports that eighty patients whose Wassermann reactions were observed to be positive never returned to learn definitely whether or not they actually had the disease, and that one hundred and fifty-one after returning and learning that they had syphilis never undertook treatment. In other words, 231 syphilitics out of 510, or 45 per cent, allowed themselves to become possible subjects for syphilis of the central nervous system, to say nothing of the dangers they brought to their associates and to the community in which they lived.

Cabot[2] has recently stated that "If society should fail to control syphilis, syphilis is not likely to fail to control society." The responsibility of the physician cannot be overestimated and an earnest plea should go out from all interested in the scientific progress of medicine for a careful and painstaking effort to be made to reach a definite diagnosis in all cases of suspected primary lues, and when a positive diagnosis is arrived at to carry on a persistent treatment until all traces of the infection have been eradicated beyond all reasonable doubt. A single dose of salvarsan and a few weeks of mercurial treatment will in a vast number of cases effect an apparent clinical cure, but a large number of these cases occurring in young adult life, while remaining free from clinical evidence of lues for many years, will develop a presenile state with syphilis of the central nervous system as

*Read by invitation before the Madison County Medical Society, at Madison, Fla., February 6, 1917.

the etiological factor. Fordyce[3] writes: "It cannot be emphasized too frequently nor too emphatically that the fate of the syphilitic individual depends largely upon the early diagnosis of his infection and the intensity with which his treatment is carried out in the first few months."

We frequently see patients having reached a condition of incurable syphilis of the central nervous system who give histories of having sought medical advice many years previous concerning lesions which they were told at the time were chancroidal in type, being summarily dismissed from observation after a few days' treatment with local antiseptics. In not a few instances the closest inquiry will disclose that such cases develop no further clinical symptoms, but later in life manifestations of a serious nature drive these people to again seek medical counsel and we find them suffering with syphilis involving the central nervous system. We now know that many of the so-called soft chancres are mixed infections and that they harbor the spirochæta pallida. In the event that slipshod diagnostic methods are followed the patient is cured of the chancroid and passes from observation before the specific organism of syphilis has time to produce the characteristic lesion of that disease. Many such patients will pay little or no attention to the indurated sore, secondary symptoms may be so mild that medical advice is not sought, the unsuspecting individual thus, early in life, becoming a victim of slipshod diagnositic measures and doomed not only to a circumscribed usefulness to society but to soon become a heavy liability to those dependent upon him, for it must be remembered that in too many instances these individuals perfectly oblivious of any wrong-doing have in the meantime married and have families dependent upon them.

The syphilitic child of apparently perfectly healthy parents is a familiar picture to all pediatricians who employ the Wassermann test as a routine measure in all obscure conditions in their little patients. Some time ago a pediatrician, in attendance upon a desperately ill baby of a few months, referred the father for a serological examination—suspecting syphilis. The gentleman presenting himself was a perfect specimen of American manhood, weighing close on to two hundred pounds and had never been ill a day in his life. He gave a history of having had a sore on his penis some ten years previous. This at the time was diagnosticated a chancroid and local measures applied. At no time did he develop any clinical symptoms to arouse any suspicion and a few years later married. An examination of his serum disclosed a four plus positive Wassermann reaction, the baby dying of a syphilitic meningitis a few days later. In a few weeks the mother came under the writer's observation. She was at the time of presenting herself and had always been in perfect health, but gave a history of having had one miscarriage a year after her marriage. Her serum gave a three plus positive Wassermann reaction. They both submitted to intensive treatment which is still being pursued, the husband being reduced to a two plus and the wife to a negative reaction. There is little doubt in the mind of the writer that while the child had to be sacrificed, the attending physician aborted possible if not probable syphilis of the central nervous system in both father and mother.

The duty the physician owes to society, therefore, in the early diagnosis of syphilis, cannot be too frequently or too forcibly impressed until such time when slipshod diagnositic measures shall have passed into oblivion. The steps to be undertaken in carrying on a propaganda for the control of syphilis of the central nervous system may be discussed under the following general heads:

(a) By the early diagnosis of the disease.

(b) By the application of the Wassermann test as routine in all obscure conditions.

(c) By the necessity for intensive treat-

ment, persistently employed until a permanent cure is effected.

The Early Diagnosis of the Disease.

In all suspected initial lesions persistent effort should be made to demonstrate the parasite of syphilis. If the proper technic is employed, this is not a hard matter in the vast majority of cases. Nichols[4] writes: "The diagnosis of syphilis in the primary stage can be made with absolute certainty, just as can the diagnosis of typhoid fever in the first week, by finding the cause of the trouble, and today there is no excuse for waiting until the system is thoroughly permeated with spirochætæ before giving the patient the benefit of treatment."

It is not intended at this time to discuss laboratory technic, but in passing it might be stated that the methods of choice in demonstrating the parasite are:

(a) By the dark field illumination.
(b) By the India ink method.
(c) By the silver nitrate method.
(d) By Geimsa's stain.

In collecting smears for laboratory diagnosis, all antiseptics should be withheld for at least twenty-four hours prior to taking the smears, the sore being kept clean during this period with normal salt. A drop of serum should be squeezed from the lesion and picked up by applying a glass slide, a thick smear then being made. In older sores with indurated edges it may be necessary to lightly curette, care being taken to lightly wipe away the blood, collecting on the slide clear serum. In the event that the parasite is demonstrated, treatment should be commenced at once. It may be several weeks before corroboration can be secured by a Wassermann test, and as a matter of fact such is not necessary, valuable time being lost by such waiting. As Thomas[5] writes: "The dictum not to start treatment until the diagnosis is surely established is just as imperative as it was a decade ago, but fortunately we are enabled by either the dark field microscope or the Wassermann test to make that diagnosis earlier."

Craig[6] publishes his findings in a study of the sera of 483 cases of primary syphilis relative to the time of appearance of the Wassermann reaction. The table appearing below shows that but 27.6 per cent gave a positive reaction at the end of the first week, the percentage increasing from week to week, but that even at the end of the fifth week only 79.4 per cent gave positive reactions.

Table 1.

Week after appearance of chancre.	Total number examined.	Negative number.	Negative reactions, per cent.	Positive reactions, number.	Positives, per cent.
First	65	47	72.3	18	27.6
Second	122	60	49.1	62	50.8
Third	123	44	35.6	79	64.2
Fourth	134	36	26.8	98	73.1
Fifth	39	8	20.5	31	79.4

This demonstrates that should we wait for the Wassermann test to corroborate our findings with the microscope even at the end of five weeks, we would be withholding treatment from 20.6 per cent of our syphilitics. With the spirochætæ demonstrated by a competent microscopist we are not only justified in starting treatment but owe it to our patients to do so, thus saving for them valuable time. In fact, in many instances where treatment can be started within a few days after the appearance of the initial lesion, the patient may never have any further symptoms and may never give a positive Wassermann reaction. In illustration of this statement the writer recently saw a physician who presented himself with a suspicious lesion on his left index finger. A few weeks prior he had circumcised a man suffering with a primary sore and had pricked his finger during the operation. Several smears were made from the suspected lesion, after light curettement, spirochætæ being demonstrated without difficulty. His serum gave a negative Wassermann. In-

tensive treatment with salvarsan and mercury, the former intravenously the latter intramuscularly, was instituted. With the initial dose of salvarsan the extra-genital chancre promptly underwent resolution, he developed no further symptoms and two subsquent Wassermann tests several months apart were negative.

The Application of the Wassermann Test as Routine in all Obscure Conditions.

The literature is teeming with reports on the large number of syphilitic infections that would have been overlooked in the absence of the routine Wassermann. Vedder[7] reports 27.4 per cent of recruits for the United States Army as giving positive reactions, Munger[8] reporting positive reactions in 1.6 per cent of Navy recruits. This wide variation in positive reactions among recruits for these two branches of the public service is of interest from a sociological standpoint. Munger attributes it to the fact that 75 per cent of the Army recruits are over 21 years of age while nearly 75 per cent of the Navy recruits are under 21. He tersely remarks that "a boy of 17 or 18 takes a sex lecture as a joke and by the time he has learned his lesson it is too late." Peterson[9] reports that in 381 obstetric patients in the University of Michigan Obstetric and Gynecologic Clinic, 4.7 per cent were demonstrated as syphilitics. He states that from conservative figures there are between 3,000,000 and 4,000,000 syphilitics in the country at the present time, "a far more important question for the practictioner to consider is who among his patients are afflicted with this most serious disease and how they are to be cured."

With the appliaction of the routine Wassermann the interpretation to be given laboratory reports requires careful consideration. The writer has already referred to the frequent late appearance of the reaction in undoubted cases of lues. Where we have reason to suspect that syphilis may be a factor in a patient's condition we should not allow a single negative Wassermann to stop further investigation. A lumbar puncture with a Wassermann test on the spinal fluid, a cell count and globulin estimation will frequently assist us in arriving at a diagnosis of lues where the serum gives a negative reaction. Again, a provocative Wassermann will frequently clear up an otherwise undiagnosed condition. Nichols[10] reports a case in which a provocative reaction was not obtained until the fifth day after administration of salvarsan.

The Necessity for Intensive Treatment Persistently Employed Until a Permanent Cure is Effected.

There is little doubt that the majority of cases of syphilis of the central nervous system develop as a result of inefficient treatment employed during the early days of luetic involvement. The addition of salvarsan to our therapeutic armamentarium should materially decrease the number of these cases. The fallacy of one, two or even larger number of doses of salvarsan systematically curing all cases of syphilis is amply demonstrated by a study of the literature even after the few years we have had this therapeutic aid at our disposal. Craig[11] in an analysis of 400 cases treated with salvarsan under observation for a period of eight months or longer since receiving treatment, reports that 202 or 50.5 per cent remained positive, while in 198 or 49.5 per cent the Wassermann test became negative. Of the 198 cases becoming negative 166 or 82.8 relapsed, "as shown by a negative complement fixation becoming positive." He publishes the following table showing the relation and method of administration of salvarsan to relapse:

Table 2.

Method of treatment.	Total number of cases.	Relapses. Number.	Per cent.
One intravenous, 0.6 gms	80	78	97.5
Two intravenous, 0.6 gms	29	24	82.7
Three intravenous, 0.6 gms	6	4	66.6
One intramuscular, 0.6 gms	67	51	76.1
Two intramuscular, 0.6 gms	7	3	42.8
Combined intramuscular and intravenous	9	6	66.6

While the writer would not deter from the value of the Wassermann test as a diagnostic measure, he wishes to enter a plea for its more general application for the purpose of determining the efficacy of treatment employed. A single dose of salvarsan will in the vast majority of cases effect a clinical cure, but we know that too frequently even repeated intravenous administrations will not reduce a positive Wassermann to a negative reaction, and it is these apparently clinically cured cases that later in life develop syphilis of the central nervous system. It is not necessary to dwell on the fact that salvarsan therapy should be accompanied by intensive mercurial treatment, the salicylate is the salt more commonly employed and the intramuscular route is the method of choice in administration. Lautmann[12] has recently reported a small number of cases in which he used the benzoate with very gratifying results. The preparation he employed consisted of an oily emulsion of ten parts of mercury benzoate and two parts of quinine and urea hydrochloride in one hundred parts of liquid petrolatum.

Nichols[13] states that the standard of cure adopted by the United States Army consists of one year without treatment, without any suspicious clinical signs, with several negative Wassermann reactions and no positive ones and with a negative provocative Wassermann and luetin test at the end of the year. When a standard of cure approaching this is adopted by the civilian medical profession then, and not until then, can we expect to see a diminution in the number of cases of syphilis of the central nervous system that now constitute such a large percentage of the inmates of our asylums.

Bibliography.

[1]Thomas, Benjamin A.: Modern Diagnosis and Results Clinically, Serologically and Sociologically of Syphilis Treated with Salvarsan and Its Substitutes, The Pennsylvania Medical Journal, Vol. XX, 1917, p. 264.

[2]Cabot, Hugh: Syphilis and Society, Transactions of the Congress of American Physicians and Surgeons, Vol. X, 1917, p. 46.

[3]Fordyce, John A.: The Diagnosis and General Treatment of Syphilis, *ibid.*, p. 1.

[4]Nichols, Henry J.: The Specific Diagnosis of Syphilis, Bulletin No. 3, War Department, Office of the Surgeon General, 1913, p. 22.

[5]Thomas, Benjamin A.: Modern Diagnosis and Results Clinically, Serologically and Sociologically of Syphilis Treated With Salvarsan and Its Substitutes, The Pennsylvania Medical Journal, Vol. XX, 197, p. 255.

[6]Craig, Charles F.: The Diagnosis of Syphilis by the Complement Fixation Test, Bulletin No. 3, War Department, Office of the Surgeon General, 1913, p. 37.

[7]Vedder, Edward B.: The Prevalence of Syphilis in the Army, Bulletin No. 8, *ibid.*, 1915, p. 62.

[8]Munger, C. B.: A Wassermann Survey on 500 Apprentice Seamen, United States Naval Bulletin, Vol. 10, 1916, p. 642.

[9]Peterson, Reuben: A Plea for Routine Wassermann Examinations for Obstetric and Gynecologic Patients in Hospital and General Practice, The American Journal of Syphilis, Vol. 1, 1917, pp. 211-220.

[10]Nichols, Henry J.: The Specific Diagnosis of Syphilis, Bulletin No. 3, War Department, Office of the Surgeon General, 1913, p. 29.

[11]Craig, Charles F.: A Serological Study of Syphilitic Relapses Following Treatment With Salvarsan, *ibid.*, p. 99.

[12]Lautman, Maurice F.: A New Mercurial Preparation in the Treatment of Syphilis, Medical Record, Vol. 91, 1917, pp. 60-61.

[13]Nichols, Henry J.: The Cure of Syphilis, Bulletin No. 3, War Department, Office of the Surgeon General, 1913, p. 131.

PROPAGANDA FOR REFORM.

Cyanocuprol.—Studies of the effects of "cyanocuprol" on tuberculous processes, carried out by Japanese investigators, have been published. "Cyanocuprol" is stated to be a copper cyanid preparation, the exact composition of which is being kept secret. Even if its identity should become known, the use of "Cyanocuprol" is decidedly in the experimental stage (*Jour. A. M. A.*, April 7, 1917, p. 1057).

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.00 per year; 15 cents per single number.

Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.

Address Journal of the Florida Medical Association, St. Augustine, Florida, or 334 St. James Building, Jacksonville, Fla., U. S. A.

EDITOR.

GRAHAM E. HENSON, M. D.....*Jacksonville*

ASSOCIATE EDITORS.

THOMAS TRUELSEN, M. D.....*Tampa*
J. K. SIMPSON, M. D.....*Jacksonville*

COLLABORATORS.

JOHN E. BOYD, M. D., Jacksonville.....*Surgery*
R. H. MCGINNIS, Jacksonville.....*Medicine*
GERRY R. HOLDEN, M. D., Jacksonville.....*Gynecology*
JAMES D. LOVE, M. D., Jacksonville.....*Pediatrics*
W. S. MANNING, M. D., F. A. C. S., Jacksonville.... *Eye, Ear, Nose and Throat*
J. L. KIRBY-SMITH, M. D., Jacksonville...*Dermatology*
E. G. BIRGE, M. D., Jacksonville..... *Bacteriology and Pathology*
L. W. CUNNINGHAM, M. D., Jacksonville, *Roentgenology*

OFFICERS OF THE FLORIDA MEDICAL ASSOCIATION.

RALPH N. GREENE, M. D., President.....*Jacksonville*
H. C. DOZIER, M. D., First Vice-President.....*Ocala*
D. A. MCKINNON, M. D., Second Vice-President, *Marianna*
H. HANSON, M. D., Third Vice-President..*Jacksonville*
GRAHAM E. HENSON, M. D., Secretary-Treasurer, *Jacksonville*

EXECUTIVE COMMITTEE

F. F. FERRIS, M. D.....*Apalachicola*
W. E. ROSS, M. D.....*Jacksonville*
E. VAN HOOD, M. D.....*Ocala*

COUNCILLORS.

First District — Escambia, Santa Rosa and Walton Counties: J. Harris Pierpont, M. D., Pensacola, 1920

Second District—Franklin, Gadsden, Jefferson, Leon, Liberty and Waukulla Counties: F. F. Ferris, M. D., Apalachicola 1921

Third District—Columbia, Hamilton, Madison, Lafayette, Suwanee, and Taylor Counties: W. C. White, M. D., Live Oak 1921

Fourth District—Duval, Clay, Nassau and St. Johns Counties: Gerry R. Holden, M. D., Jacksonville..1918

Fifth District—Citrus, Hernando, Lake, Marion and Sumter Counties: E. Van Hood, M. D., Ocala..1919

Sixth District—Hillsborough, Pasco and Pinellas Counties: Thomas Truelsen, M. D., Tampa.....1919

Seventh District—Brevard, Orange, Osceola, St. Lucie and Volusia Counties: David Forster, M. D., Hawks Park 1917

Eighth District—Alachua, Baker, Bradford, Levy and Putnam Counties: A. H. Freeman, M. D., Starke, 1920

Ninth District—Calhoun, Holmes, Jackson and Washington Counties: J. S. McGeachy, M. D., Chipley, 1918

Tenth District—DeSoto, Lee, Manatee and Polk Counties: R. L. Cline, M. D., Arcadia.....1920

Eleventh District—Dade, Monroe and Palm Beach Counteis: W. R. Warren, M. D., Key West...1921

COMMITTEE ON SCIENTIFIC WORK.

H. MASON SMITH, M. D.....Chattahoochee
JOHN S. HELMS, M. D.....Tampa
W. R. WARREN, M. D.....Key West

Next Meeting —— Tampa —— May, 1917

SELECTIVE CONSCRIPTION FOR THE MEDICAL RESERVE CORPS OF THE ARMY.

Some three months ago it was announced through the press of the country that incident to the creation of our new army, ten thousand medical officers would be required in addition to those already in the Medical Corps of the Army and those in the Medical Reserve Corps. Examining Boards were appointed throughout the country to examine applicants for appointment in the Medical Reserve Corps. Successful candidates are offered commissions with the rank of first lieutenant, captain or major depending upon the age of the individual and his qualifications. That the medical profession has not responded as it should is evidenced by a speech recently delivered by Major Robert E. Noble, Medical Corps, U. S. Army, before a group of New York physicians. He said in part: "We have offered commissions to 5,000 men. Half of them have accepted. Of the officers ordered to the training camps the number who have asked to be exempted is appalling. I entreat you as citizens of this great country and members of a noble profession, to give the service we ask in this time of crisis."

In the Official Bulletin of June 16th is contained the following:

"Surgeon General Gorgas of the Army authorizes the following statement:

"The Medical Corps must have 17,000 more doctors for the army, and it needs most of them now. In Germany when the Army has such a call, the Government orders the doctors to join the colors, and that is all there is to it. This Government is loth to follow that example. Doctors coming into the Medical Officers' Reserve Corps are commissioned as first lieutenants, captains or majors in the service, and are liable to be ordered to any duty required of their grade. The Surgeon General's endeavor is to put each man where he is most needed

and where his specialty will count most * * *"

While Congress was debating the Army bill and the administration was contending that the only practical way to raise an army was by selective conscription, the volunteer method had its advocates, they were, however, fortunately for the country and for the world, decidedly in the minority and there are now few who question that the only way this country could successfully raise an army is by selective conscription. The term selective conscription is misunderstood by many and by a number it is thought that to be a conscript is to be disgraced. Is it not, however, reasonable to suppose that a competent board is better fitted to determine who should go and who should remain? Is it fair for an individual with responsibilities who possibly feels the call of his country more keenly—to respond to the call, while another with no responsibilities, not feeling the call as keenly, remains home? Is it fair to either the individual or the Nation? The writer believes that the same policy should apply to the medical profession.

The Government determines that an army approximating two per cent of its population has to be raised and that the only practical manner to do it is by selective conscription.

The Government determines that for the care of this army a number of medical officers exceeding ten per cent of the entire medical profession is necessary. Has the medical profession any right to assume that the type of American manhood within the profession is such that, while American citizenship cannot furnish by the volunteer method an army of two per cent of its total population, it can be expected to provide in excess of 10 per cent from its ranks officers for the care of this army? The writer believes that in all fairness to the Government, and to the medical profession legislation should be enacted providing for a complete registration of all physicians in the country, and that the selective draft system be employed to secure the quota of medical officers necessary for the proper care of our soldiers in the field. G. E. H.

JUSTICE TO THE PHARMACIST.

A letter in the Correspondence department of the Journal of the American Medical Association, June 16th, from Mr. John W. England, secretary of the council of the American Pharmaceutical Association, calls attention to an anomalous state of affairs. Physicians, dentists and veterinarians are officially recognized by the government as men of special training, whose technical knowledge can be of use to the nation in time of war. Provision is made so that men in these three professions can be enrolled as commissioned officers and their skill thus most efficiently used by the Army. The pharmacist, however—as a pharmacist—is utterly ignored. If he enlists, he does so as a private. So far as official recognition of it is concerned, the science and art of pharmacy might not exist for the Army. Today, as never before, victory in war goes to the nation that most effectively conserves the health of its fighting men. The physician is now of such military importance that the medical profession will be called on to make no inconsiderable sacrifices. It will materially lighten the arduous duties and responsibilities of the physician to have in the Army trained pharmacists who will be able to give intelligent cooperation. But it is imposing too great a strain on the patriotism of those whose special knowledge is obviously a large asset to the Army, to expect them to enlist as privates without any recognition of their national worth. Pharmacists should be given a rank commensurate with their importance, first, because it is but simple justice to the pharmacists themselves; secondly, because the usefulness of the medical corps will be greatly augmented and, lastly, and most important, because the efficiency of our Army demands it.—*Journal American Medical Association.*

SHALL CIVILIAN PHYSICIANS EXAMINE RECRUITS?

The Journal has received many inquires as to why civilian physicians cannot be authorized to examine recruits for the army, thus relieving the commissioned medical officers of an immense burden. Possibly the reason may be the untrustworthiness of such examinations on account of the personal interest of or other influence brought to bear on the examiner, and especially because civilian physicians are not informed as to military requirements. We are led to believe this from a communication received from a medical reserve officer, who relates his observations during the first week of his active duty in connection with a reserve officers' training camp. When the young men received orders to present themselves at the training camp, they were instructed to have themselves examined by their home physician before reporting for duty, the object being to eliminate the manifestly unfit and also to save such men the time and expense of a trip to camp. At the training camp from which our correspondent writes there are between 4,000 and 5,000 prospective reserve officers. During the first week there were found simply among those who reported to the Medical Department for "sick call" before the regular routine examinations by medical officers were instituted, two men with exophthalmic goiter, one with a chronic heart condition not compensated, and several with acute venereal disease contracted before coming to camp. One case in particular attracted attention because of the numerous defects found which would disbar the man from service. The first step in the examination of recruits is to take the weight and height. This man was 64½ inches tall, and weighed 104½ pounds. Only the Adjutant General of the Army has the special authority to accept an applicant whose weight falls below 120 pounds. Among other defects found on a cursory examination of the man mentioned were marked hammer toe of the large toe of each foot with painful bunion, hammer toe of the second and third toes of each foot so severe that the nail struck the ground, and one leg was an inch shorter than the other. This the man compensated by standing in a position which gave him the appearance of marked scoliosis. There was severe pyorrhea. There was a distinct heart murmur; the apex beat was in the sixth interspace outside the nipple line; the heart reacted severely to the slightest excitement. Finally, there were both external and internal hemorrhoids. This case is an exceptionally severe one, but it is an actual case. And yet this man had presented himself with a certificate of perfect health in the form of a report of an apparently rigid examination made by his family physician, had been enrolled in the training camp for a week, and his condition discovered when he reported for sick call, before the official examination had been made. Medical officers are supplied with "Rules for the Examination of Recruits." They should thoroughly familiarize themselves with these rules before attempting the work.—*Journal American Medical Association.*

NATIONAL COMMITTEE FOR MENTAL HYGIENE.

The National Committee for Mental Hygiene has created a subcommittee on furnishing hospital units for nervous and mental disorders to the United States Government, the project having been approved by Surgeon General W. C. Gorgas of the U. S. Army.

This subcommittee, of which Dr. Pearce Bailey of New York is chairman, is authorized to secure the service of alienists and neurologists to be commissioned in the Officers' Reserve Corps, Medical Section, and to serve in the neuro-psychiatric units which are to be attached to the base and other hospitals of the military services of the United States. Further information will be given, and application forms sent to physicians qualified in this branch of medicine on application by letter or in person to The National Committee for Mental Hygiene, 50 Union Square, New York City.

DECREASE IN MORTALITY FROM PELLAGRA IN 1916.

It is gratifying that the death rate from pellagra dropped very considerably in 1916. This is shown by the experience of the Metropolitan Life Insurance Company which has a large number of policyholders in the section of the country where this disease prevails.

Favorable Tendency of Pellagra Mortality.

In recent years pellagra has very rapidly increased in importance as a cause of death. In 1911, the number of deaths in the company's experience was only 277 in 1915, this number had increased to 650. During this period the rate has increased from 3.6 per hundred thousand exposed persons to 6.7. In 1916, the number of deaths dropped to 368, and the rate to 3.6 per 100,000, exactly the same as in 1911. Comparing the year 1915 with 1916, there was a decrease of 46 per cent in the rate. This drop is observed in many of the southern districts where the company does business. In the Atlanta district, for example, the number of deaths fell from 50 in 1915 to 28 in 1916; in the Columbus district, from 73 to 29; in Augusta, from 28 to 12; in Charlotte, N. C., from 24 to 12; in Greensboro, from 18 to 8; in Columbia, S. C., from 24 to 11; in Spartanburg, from 15 to 2; in Chattanooga, Tenn., from 21 to 10; in Knoxville, from 29 to 19, and in Memphis from 57 to 41.

Prosperity in the South During 1916.

The insurance company's statistics make possible a number of interesting deductions with reference to the characteristics of this disease. The very remarkable drop in the rate in 1916 appears to bear out the tentative conclusions of the Government experts who are now studying pellagra, namely, that the disease is not of infectious origin, but is probably one of the so-called "deficiency" diseases induced by insufficient, poorly-balanced dietaries. The year 1914 and the first half of 1915 were periods of depression in the cotton belt and this was reflected by higher pellagra rates. In the latter part of 1915 and in all of 1916 prosperity prevailed and the industrial and agricultural communities of the South enjoyed a more abundant and varied ration. Future observation and experiment by Government authorities will probably definitely determine whether this explanation of the declining death rate of the disease is entirely satisfactory.

Negroes Show Higher Pellagra Mortality Than White Persons.

The experiences of the Metropolitan shows, furthermore, that the disease is much more prevalent among the colored people than among the whites and is much more frequent among females than among males. Thus, in the five-year period, 1911-1915, the rate among colored females was highest, 20.3 per 100,000; among the colored males, it was 6.4; among the white females, 4.2, and among white males, the least of all, 1.7 per 100,000. It would be very interesting to learn why females in this country have, approximately, three times the pellagra mortality rate of males. Another interesting fact is that the incidence of the disease increases with age. There is no exception to this fact up to age 65. After 65, the rate remains fairly stationary.

Disease Probably Under Control.

Early reports for 1916 which have come from the health authorities of certain of the southern States are in general agreement with the encouraging insurance figures referred to above. It is to be expected, therefore, that when the full mortality report of the Census Bureau for 1916 appears the condition indicated by the Metropolitan's experience will be found generally true throughout the populations of many southern States. There is in effect good indication that the measures instituted by the U. S. Public Health Service and the hypothesis upon which their work has been planned, are sound, and we may confidently expect that this comparatively new scourge will soon be under control.

AMERICAN REMEDIES FOR CHINESE AILMENTS.

China will soon be the greatest market in the world for proprietary medicines, according to a bulletin issued today by the Bureau of Foreign and Domestic Commerce, of the Department of Commerce, to call the attention of American manufacturers to the advantages of getting a good foothold in the market at once.

"Hygiene is practically unknown among the Chinese," the report states, "and the sickness and suffering to which the masses are subject on account of the lack of efficient native remedies or treatment is probably greater than in any other country. This is especially true of all varieties of skin diseases, against which no native salves or blood tonics seem effective."

Ten years ago the proprietary-medicine trade in China was hardly worth mentioning, although foreigners had been laboring for twenty years or more to develop it, but immense strides have been made since then and ample profits have been realized. The trade, however, is still in its infancy.

Through judicious and persistent advertising the natives are gradually being educated to the necessity of paying some intelligent attention to their ailments and are responding remarkably well. For this reason it is not difficult to introduce a good article at a reasonable price, if supported by the right kind of advertising.

The Bureau's report is devoted chiefly to sale methods and advertising and the material presented on these subjects is new and important. Copies of the bulletin, which is entitled "Proprietary Medicine and Ointment Trade in China," Special Consular Reports No. 76, may be purchased for 5 cents from the Superintendent of Documents, Washington, or from any district office of the Bureau of Foreign and Domestic Commerce. It contains 12 pages.

COMMON SENSE.

The conservation of natural resources in the United States has been accorded a great deal of attention in the past few years. "Conservation" was originally urged with reference to our forests, water power and mineral resources, but has of late come to be considered in all its details with reference to food supplies. The preservation of fruits, canning of meats and the proper storage of fruits, vegetables and eggs is not only widely practiced, but it is a deeply studied question. The preservation of flavors is now being studied by our food commissioners. It is the object of these investigations to ascertain the best conditions for the preservation of food and to eliminate every condition tending towards spoilage or waste.

Nevertheless, one great industry has recently been developed which produces an unnecessary product more liable to deterioration and spoilage than the products from which it is prepared. Its only human appeal is to laziness. We speak of the manufacture of self-rising flour. As is well known, self-rising flour consists of nothing more than certain baking powder ingredients, such as phosphate and soda added to flour, together with a little salt. The phosphate thus used is generally adulterated with from five to fifteen per cent of gypsum, otherwise known as calcium sulphate. The keeping qualities of this self-rising flour depend upon the keeping qualities of the baking-powder materials incorporated therein. Whereas baking powders are made with super-dried starch, containing from two to seven per cent of moisture and are sold in tin cans which protect the product from the moisture of the atmosphere, flour contains from ten to thirteen per cent of moisture and is generally sold in bags, open to the access of atmospheric moisture. We can then see that the keeping qualities of self-rising flour are far inferior to those of baking powder. In this connection it should be further noted that phosphate baking powders retain their strength for a shorter length of time than any other baking powder, and it is the

phosphate type of powder that is used in self-rising flour.

It is well known that if kept at proper temperature, flour can be properly conserved from year to year. This is not the case with self-rising flours. The housewife who buys an ordinary flour makes a self-rising flour of it as soon as she adds or mixes therewith a little baking powder. This task requires but little labor. She has thus produced a self-rising flour which is sure in its results. This is not the case with self-rising flours produced for sale. A cheaper grade of flour is used than that which can be secured at the same price together with the necessary baking powder by the housewife by purchasing the ingredients separately. No filler, such as calcium sulphate or gypsum, is used in any baking powders. The housewife desiring a pure, trustworthy product which will not deteriorate rapidly will, therefore, cease to buy these self-rising flours.

There is unquestionably a large amount of spoilage in self-rising flour taking place that is discovered only in the home in poor-quality biscuits, and which thus escapes public notice. If, however, statistics could be compiled showing the extent to which self-rising flour deteriorates as compared with straight wheat flour, the totals would be so great as to arouse a cry against the manufacture and sale of this article which would be heard from coast to coast.

Reviews from Current Literature

THE RADICAL MASTOID OPERATION

Harris, Thos. J.: Annals of Otology, Rhinology and Laryngology, Vol. XXX, No. IV, p. 835.

The author starts with the following statement that a radical operation is "an operation for the radical, or complete removal of all disease, and is indicated when cure by other means is found impossible."

The original indication for this operation as laid down by Kuster and Stache, its originator, was the cure of chronic suppuration, and whatever intercurrent indications there may be it must be borne in mind that this only is the primary indication.

The author believes that the unsatisfactory results following such a large percentage of these cases are due to failure in determining the proper indication for this operation, or to faulty technique in the operation or in the post-operative treatment. There is no question in his mind that the operation is many times unnecessarily performed.

A suppurating ear lasting over a few weeks or months where the probe shows no dead bone is not a proper case for radical operation. "Such cases should be subjected to a careful and systematic course of treatment before any operation is considered." Proper drainage and care will perfect a cure in a large percentage of cases.

The second group of cases is composed of children with the history of discharge following Xanthemata. "Here the removal of the adenoids and tonsils with conservative treatment to the ear is the proper course to persue."

With the risk of being regarded as an ultraconservative, we venture to say that the fetish that every suppurating ear is a volcano which may explode at any moment, is far from the truth, and is responsible for many an operation which otherwise would not be performed. Kipp, who at the time of his death had as large an experience as anyone in America, stated that he had never seen intercranial complications follow ear trouble which was under treatment.

In patients with double suppurating middle ear disease, only in the presence of symptoms indicating danger to life should the radical operation be performed. Infections in the eustachian tube are a very prolific source of suppuration and of reinfection in middle-ear diseases. Great stress should be laid on the care of the eustachian tube and the post nasal space.

To recapitulate, as a result of his investigations covering many hundred cases the author reaches the following conclusions:

First, that the radical operation is an operation of undoubted merit.

Second, that it has been in the past and is today being performed often when not called for.

Third, that the results are by no means uniformly good, partial or complete failures occurring in a considerable percentage of cases.

Fourth, that the improvemet in the hearing can not be promised. The most that can be offered, in the light of our statistics, is that the hearing will not be altered, although there is sufficient risk of lowering or destroying it to warrant reluctance or refusal to operate in case the hearing in the other ear is destroyed.

Fifth, that while accidents, including facial paralysis, are met with in the course of the operation, they are not of sufficient frequency or significance to have any bearing upon a decision in regard to the operation.

Bibliography.

1. Kuster: Deutsche medicinishe Wochenschrift, 1889.
2. Hays: Annals of Otology, Rhinology and Larynology, Vol. 20, 1911, p. 86.

W. S. M.

PERCY'S TREATMENT OF INOPERABLE UTERINE CANCER

Leonard, V. N., and Dayton, A. B.: Fatal Complications of Percy's "Cold Iron" Method in the Treatment of Inoperable Carcinoma of the Cervix. Surg., Gyn., and Obst., Vol. XXIV, Feb., 1917, p. 156.

The authors report the complete case histories and histological studies of two patients who died at the Johns Hopkins Hospital after treatment with the Percy method.

They find that the primary effect of the Percy cautery is to cause a necrotic mass extending from the coagulating point more or less uniformly in all directions. They state that this mass of necrotic tissue offers an ideal medium for the growth of microorganisms, proven by the pathological studies of the tissues in these cases. It is probably impossible to prevent infection of this area, and once infected the thrombosed vessels of the region may offer a ready entrance into the system. Therefore the danger of septicemia is considerable.

They are convinced that fatalities with this method have been frequent wherever it has been used. They have been able to find, however, but one fatal case reported in the literature. In this case as well as in the author's two cases microscopic sections show uninjured carcinoma cells beyond the cauterization area. Therefore they conclude that the method, in addition to being dangerous, is also ineffectual in eradicating the carcinoma. These two cases offer no evidence that carcinoma is more susceptible to heat than is normal tissue. G. R. H.

RESULTS OF OPERATION FOR CANCER OF THE UTERUS

Berkeley, C., and Bonney, V.: The Radical Abdominal Operation for Carcinoma of the Cervix Uteri. The British Medical Journal, 1916, No. II, p. 445.

The authors report the results after five years of 100 cases of cervical cancer, treated by the radical abdominal operation.

In the operation the uterus, including cervix, tubes, ovaries, broad ligaments, parametrial and paravaginal tissues, and the upper part of the vagina were removed in toto. The glands and cellular tissues of the obturator fossæ and those surrounding the illiac vessels were all removed. The ureters were entirely isolated during operation and when necessary were resected.

The final results, after a five-year period had elapsed, were as follows:

Died at operation	20
Died of recurrence	32
Died of other diseases	2
Lost sight of	7
Cured at the end of 5 years	39

G. R. H.

SUBJECT INDEX.

A.

Acidosis 4
Acidosis in children 8
Acidosis in infancy and childhood 1
Act, relating to the right to practice medicine and surgery in the state of Florida, An..... 193
Acute otitis media, The bacteriology and the channels of invasion in 16
Address, An 270
Address, President's 321
Aged, Urinary troubles in the 231
Aged, Valvulæ lesions in the 225
Alachua county medical society, Resolutions of 351
Alcoholic insanity, with report of a case 181
Annual Congress 281
Anthrax, Vaccination against 316
Appendical abscess: its treatment and comparative frequency in small towns and rural communities 336
Appendicitis complicating pregnancy 82
Appendicitis, Factors influencing the death rate in surgical and medical 274
Apology, An 316
Atlantic Beach meeting, The 311
Arsenobenzol and diarsenol 315

B.

Bacteria in the economy of nature 324
Bronchitis, Senile 229
Blindness and its detection, Simulated..... 204
Blood examinations from the standpoint of the malarial index in acute febrile conditions, A study of 184 71
Breast, The advantage of early diagnosis and treatment of tumors of the 103

C.

Calomel 183
Cancer 341
Cancer department 24, 58, 124, 188, 251
Cancer problem, The 97
Cardiac pyloric anastomosis 298
Cataract, The diagnosis and treatment of incipient senile 333
Charities and corrections, National conference of 318
Children, Acidosis in 8
Chinese ailments, American remedies for 376
Colle's fracture 237
Combating insects affecting the health of man 191
Common sense 376
Complement, A few facts concerning 48
Confusional states with special reference to pathogenesis, The management of 292

D.

Dairy utensils, Campaign against unclean 285
Degenerative vascular changes of the aged, The 233
Diabetes Mellitus 238
Diagnosis and treatment of syphilis, The..... 43
Diagnosis and treatment of incipient senile cataract, The 333
Diagnosis of lesions in the upper right quadrant, The differential 117
Diet in senility 232
Diphtheria, Unrecognized nasal 153

E.

Elbow, Fractures of the 69
Epithelioma involving deeper tissues, Report of one case of 106
Eyestrain, its diagnosis and treatment 144
Eye symptoms in relation to systemic disease, The significance of 142
Editorials:
Atlantic Beach meeting, The 246
Alaska, Government health work in 155
Another state journal 56
Base hospitals for the army 350
Children in war time 347
Compulsory health insurance 248
Disease dangers of war with Mexico 22
Duties of the county secretaries, The 246
Exposure to cold as a causal factor in diseases of the respiratory tract 156
Intravenous therapy 187
Journal of urology, The 280
Justice to the pharmacist 373
Medical practice act, The proposed 219
Medical preparedness 54, 247
Oh, Mr. Advertiser 55
Our cancer number 122
Perpetuating patents by trade names 88
Playing to the grandstand 123
Prevention of infantile paralysis 57
Removal of the Eclectic board, The 280
Right and wrong of making experiments on human beings, The 220
Rural health America's first duty 56
Sacrifice of the child to carelessness, The ... 187
Saving Mothers 348
Science in the movies 248
Selective conscription for the Medical Reserve Corps of the Army..... 372
Shall civilian physicians examine recruits... 374
The army medical service as a career: An opportunity 21
The centennial of the stethoscope 23
The etiology of epidemic poliomyelitis..... 157
The immediate need of young men for the regular medical corps 351

The mobilization of the medical profession.. 346
The more recent graduates desired 350
The National defense bill and the army medical service 20
The Nation's call 310
The prevention of disease 55
The Southern Medical Association 122
The war and medical research 349
Volusia county medical society, The..... 186
What your stationery speaks for 247

F.

Femur, Fracture of the neck of the 65
Florida Medical Association, Proceedings of the forty-fourth annual meeting of the 353
Focal infection 289
Fractures at the elbow 69
Fractures, Colle's 237
Fractures of the humerus and femur with special reference to the operative method with the use of an autoplastic graft, The treatment of 259
Fracture of the neck of the femur 65
Fraudulent infantile paralysis "cures" 90

G.

Gallstone disease 363
Gallstone, Intestinal obstruction from 269
Gastrointestinal tract, Roentgen diagnosis of the 365
Gonorrhœa in the female, Diagnosis and treatment of chronic 13
Gunshot wounds of the abdomen, with multiple perforations of the small intestine and mesentery 141

H.

Heines-Medins disease, Poliomyelitis or 176
Herniotomy 174
Hormones and hormone therapy 161

I.

Indians, Making good Indians by having no sick 89
Indigestion, A definite discussion of the indefinite term 234
Infancy and childhood, Acidosis in 1
Infancy, Pyelitis of 10
Infantile paralysis "cures," Fraudulent 90
Infantile paralysis, Some of the recent ideas on 214
Insanity, with report of a case, Alcoholic 181
Intestinal obstruction: its diagnosis and treatment, with report of a case 264
Intestinal obstruction from gallstone—report of a case 269

K.

Kidney stones, The leading and misleading symptoms of 331
Kidney, The effects of senility on the..... 229

L.

Lumbar puncture and examination of the spinal fluid 33

M.

Malarial index in acute febrile conditions, A study of 184 blood examinations from the standpoint of the 71
Malaria, The duty of the physician toward the eradication of 165
Medical aspects of the Navy 202
Medical Corps of the U. S. Navy 25, 89
Medical Officers Reserve Corps, Information relative to appointments in the 311
Mental hygiene, National committee for 374
Milk in the home, The three "C's" of caring for 25
Morphine habit, Treatment of the 172
Muscle repair in perineorrhaphy, The importance of 11

Mc.

McIntyre prize 249

N.

Nasal diphtheria, Unrecognized 153
National board of medical examiners of the United States, The 59, 189, 285
Navy, Medical aspects of the 202
Neurasthenia 339
New and nonofficial remedies:
127, 159, 191, 222, 253, 287, 319
New York state civil service commission..... 92

O.

Obituary, J. B. Maloney, M. D. 91
Obstetrical cases, Review of 148 307
Obstetrics outside of the maternity hospital ... 300
Oral affections and their effect upon the general health 304
Osteochondritis deformans juvenilis..... 257
Otitis media, The bacteriology and the channels of invasion in 16

P.

Pancreatitis, Some of the symptoms of 73
Parke, Davis & Company 123
Pellagra, Diagnosis and treatment of 137
Pellagra in 1916, Decrease in mortality from .. 375

Perineorrhaphy, The importance of muscle repair in 11
Pituitrin 182
Poliomyelitis or Heine-Medin's disease 176
Pointers, A few 286
Practical policy, The 197
Practicing physician's responsibility in public health work, The 200
Pregnancy, Appendicitis complicating 82
President's address 321
Proceedings of the forty-fourth annual meeting of the Florida Medical Association 353
Program, Preliminary 319
Propaganda for reform:
17, 52, 87, 120, 154, 185, 216, 243, 308, 344, 371
Public health administration for small communities, Better 313
Publisher's notes:
32, 63, 95, 128, 160, 192, 224, 288, 320, 352, 383
Pyelitis of infancy 10
Pyelography as an aid to the diagnosis of certain obscure renal and abdominal conditions 129
Pyorrhœa, A surgical conception of..... 291

R.

Registration at the Atlantic Beach meeting.... 345
Renal and abdominal conditions, Pyelography as an aid to the diagnosis of certain obscure 129
Renal calculus, Roentgen diagnosis of..... 135
Resolutions of Alachua County Medical Society 351
Roentgen diagnosis of renal calculus: report of one hundred and twenty-seven examinations 134
Roentgenotherapy, with special reference to certain malignant conditions, tubercular adenitis and eczemas 111
Reviews from Current Literature:
Asthma in children 94
Bacteriological findings in cerebro-spinal fluid in poliomyelitis 222
Cancer of the uterus 125
Care of the infant during hot weather 159
Cauterization of wounds infected with rabies virus 222
Chloroma 126
Commission on milk standards 287
Constipation in infants 94
Creolin in scabies 94
Diagnosis of tuberculosis 27
Etiology of chorea 62
Experimental convict road 287
Experimental studies with muscides and other fly-destroying agencies 286
Infantile paralysis 61, 92, 158
Painless labor 31
Pathogenic yeasts 95
Percy's treatment of inoperable uterine cancer 378
Pituitrin extract 61
Pregnancy in the tuberculous 28
Results of operation for cancer of the uterus 378
Roentgen diagnosis of gallstones 30
Roentgenographic diagnosis 63
Ruptured uterus after Cesarean section 221, 222
Sarcoma of the kidney 127
Sugars and starches in infant feeding 28
Swimmer's conjunctivitis 62
The cranial nerves 95
The luetin reaction in congenital syphilis... 29
The radical mastoid operation 377
Treatment of carbuncle by the Roentgen ray 30
Tuberculosis 31
Value of autoserum in skin diseases..... 29
Wassermann reaction in pregnancy 93

S.

Sagging abdominal viscera: their nonsurgical treatment 146
Salvarsan, Another shortage of 284
Sarcoma: with report of a case, An unusual location for a 108
Self-rising flour 249
Senile bronchitis 229
Senile debility, The management of 230
Senility 273
Senility, Diet in 249
Senility on the kidney, The effects of 229
Simulated blindness and its detection 204
Southern Gastro-enterological Association 191
Spinal fluid, Lumbar puncture and examination of the 33
Stones, The leading and misleading symptoms of kidney 331
Surgery, Complete efficient 150
Syphilis of the central nervous system, The prophylaxis of 367
Syphilis of the central nervous system, The treatment of 206
Syphilis, The diagnosis and treatment of 43

T.

Tonsils and their surgical removal, Current reviews regarding the 283
Trypsin in the stomach, The fate of 313
Tubercular campaign, An important epoch in.. 311
Tuberculosis of childhood, Glandular 212
Tuberculosis, The early diagnosis and home treatment of pulmonary 330
Tumors of the breast, The advantage of early diagnosis and treatment of 103

U.

Urinalysis 211
Urinary troubles in the aged 231
Urologic cases, Report of 86

V.

Valvular lesions in the aged 225
Vascular changes of the aged, The degenerative 233
Vitamine 169
Vitamine content, The 190

W.

Warning 26
Wassermann reaction, The interpretation of the 40

X.

X-Rays and the living cell 109

AUTHOR'S INDEX.

Adams, W. H. 333

Baltzell, N. A. 336
Bean, J. R. 48
Benton, G. H. 176
Bird, U. S. 153
Bouchelle, L. B. 229
Boyd, J. E. 363
Brink, F. A. 211
Byrd, Hiram 324

Caldwell, J. E. 161
Carlton, L. F. 103
Chancey, M. G. 73
Chowning, W. C. 232, 273
Cunningham, L. W. 34, 365

Dey, W. P. 40
Douglass, W. C. 172
Dowling, Oscar 197
Downs, Ardrey W. 169
DuBois, Henry K. 231
Dozier, H. C. 259

Effird, L. J. 117
Ely, R. A. 69

Fellows, J. H. 214
Ferris, F. F. 341
Freeman, Mary 106

Galey, Harry C. 141
Gammon, J. E. 43
Ginsberg, H. M. 289
Goss, P. L. 300
Grantham, J. M. 8
Greene, Ralph N 33

Hall, Wilmer S 304
Henson, Graham E. 40, 165, 225, 367
Helms, John S 270
Hutchinson, Clarence 291

Ives, A. C. 11

Jelks, Edward M. 129, 257
Jennings, Charles L. 82

Kime, R. R. 150, 274
Kingsbury, G. C. 182
Knight, C. P. 200
Knowlton, R. H. 4

Lassman, George A. 13
Lischkoff, M. A. 204
Long, John P. 111
Love, James D. 1

McEwan, J. S. 237
McGunagle, J. E. 233
McGinnis, R. H. 330
McMillan, D. W. 212, 238
McRae, John D. 109

Main, D. C. 181
Merritt, E. P. 86, 331
Merryday, H. L. 229

Niles, George M. 146, 234

Oppenheimer, L. S. 183

Perry, P. C. 108
Peyton, Harry A. 129

Reeve, John 65, 230

Simmons, John A. 264
Smith, Marvin 298
Smith, H. Mason 205
Smith, Samuel F. 142
Stringer, Sheldon 174
Sullivan, R. R. 269

Taylor, H. C. 97
Taylor, Joseph W. 144
Tisdale, W. L. 137
Toulon, A. J. 202
Turberville, J. S. 71, 307

Walter, F. J. 16
Warren, W. R. 141
West, J. W. 10
White, J. B. 339
Williams, Tom 292

Publisher's Notes

ADVANTAGES OF GERMICIDAL SOAP.

On solution in water Germicidal Soap (McClintock) liberates a small quantity of free alkali. This prevents the coagulation of albumin and permits the mercuric iodide contained in the soap to thoroughly penetrate bacterial and tissue cells.

Germicidal Soap is a valuable disinfectant in surgery, in gynecology, in obstetrics and in routine practice. It is not only detergent, but it is a penetrating antiseptic at the same time. It is an excellent lubricant for sounds and catheters. It is always ready for use. No weighing or measuring is necessary. There is no waste. Hands, instruments and field of operation are quickly disinfected with the one material.

Germicidal Soap does not attack nickeled or steel instruments, as does bichloride of mercury. It will not cause numbing of the hands as does carbolic acid.

Germicidal Soap is supplied in two strengths: Germicidal Soap, two per cent mercuric iodide—large cakes, one in a carton; Germicidal Soap, mild, one per cent mercuric iodide—large cakes, one in a carton—small cakes, five in a carton; Germicidal Soap, soft, one per cent, in collapsible tubes, and Germicidal Soap Surgical, one per cent, in cylindrical cakes wrapped in perforated paper and enclosed in a nickel-plated case. It is well to specify "P. D. & Co." in ordering.

CHLORAZENE AND DAKIN'S SOLUTION.

How does Chlorazene compare with the Hypochlorites or Dakin's Solution? You have heard a great deal about the Hypochlorite, commonly known as Dakin's Solution.

The difference between Chlorazene and Dakin's Solution may not be clear to you. It is just this. Chlorazene is a definite chemical compound (para-toluene—sodium-sulphochloramide) which was deevloped by Dr. H. D. Dakin of the Rockefeller Institute, subsequent to his work with the hypochlorites. This new synthetic is known as Chloramine T in Europe and Chlorazene in the United States. Chlorazene is an improvement upon the hypochlorites. Doctor Dakin has gone a step further and developed in Chlorazene an antiseptic which is not only as powerful as the hypochlorites and similar in action but one which is less toxic, less irritant, and stable, both in powder and solution. Chlorazene is more convenient than Dakin's Solution and more generally efficient.

The Hypochlorites, to be 100 per cent efficient, must be prepared exactly in accordance with the latest method (there have been three or four formulas) and fresh solutions must be made frequently. The process is involved and technical, requiring a trained chemist and considerable laboratory equipment, each batch must be tested and protect to prevent deterioration, for the hypochlorites are sensitive to light and heat. Few physicians and only the larger hospitals have the facilities for preparing this hypochlorite solution.

On the other hand, Chlorazene is supplied in powder and tablet form avalaible for use at any time. It will keep indefinitely. Irrigating solutions for use according to the Carrel-Dakin method may be prepared with Chlorazene promptly and economically.

Every physician and surgeon in the United States should know of and use Chlorazene wherever such an antiseptic is indicated. Literature will be sent on request to The Abbott Laboratories, Chicago, Illinois.

Gelatine

In Its Most Inviting Form

Test Lots Free

Gelatine is gaining new recognition as a food for ailing people.

It is the most efficient protein-sparer known. It will save half its weight of protein from destruction. It is easily digested. It does not burden the kidneys.

Our Latest Flavor

Waukesha gelatine, used in Jiffy-Jell, is the highest grade produced. It is worth on the market twice as much as the common. And we control the output.

In Jiffy-Jell it is instantly prepared. Simply add boiling water. Then add the fruit-juice flavor from the vial that is inclosed in each package.

All the fruit flavors in Jiffy-Jell are made from the fruit itself. All come sealed in vials. Thus Jiffy-Jell desserts are made doubly delightful. Let us send you enough to try.

True Fruit Flavors

Flavors in Vials

These fruit-juice flavors, sealed in vials, give the tang and zest of the fresh ripe fruit. And the flavor isn't spoiled in the making. It isn't scalded. The flavor is added when the jell has partly cooled.

Jiffy-Jell desserts need no fresh fruit to be appetizing, though fresh fruit can be added. Other things may be added, like puffed wheat or rice, nuts, chocolate or whipped cream. There are a hundred forms of Jiffy-Jell desserts.

Flavors Not Scalded

Ask us for a test assortment. A Recipe Book will come with it. Learn how delightful are these quick, fruity desserts when flavored in this way.

Jiffy-Jell is made in America's model food plant. It is made by Otis E. Glidden, the famous gelatine expert. It will give you a new conception of gelatine desserts.

Test Lots Free
To Physicians and Hospitals on Request.
Hospital Sizes Twice the Ordinary.

Jiffy-Jell

Reg. U. S. Pat. Office

The Supreme Dessert

Fruit-Juice Flavors in Vials

WAUKESHA PURE FOOD CO.
Waukesha, Wis.

Eight Flavors

Strawberry	Orange
Raspberry	Lemon
Cherry	Lime
Pineapple	Mint

FORTY-FOURTH ANNUAL SESSION — ATLANTIC BEACH — MAY, 1917

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III
No. 2

St. Augustine and Jacksonville, Fla., August, 1916

Yearly Subscription, $1.00
Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

Lumbar Puncture and Examination of the Spinal Fluid, Ralph N. Greene, M. D.... 33

The Interpretation of the Wassermann Reaction, W. P. Dey, M. D., and Graham E. Henson, M. D..... 40

The Diagnosis and Treatment of Syphilis, Julian E. Gammon, M. D..... 43

A Few Facts Concerning Complement, J. R. Bean, M. D..... 48

Propaganda for Reform 52

EDITORIALS

Medical Preparedness 54

Oh, Mr. Advertiser! 55

The Prevention of Disease..... 55

Another State Journal 56

Rural Health America's First Duty..... 56

Prevention of Infantile Paralysis 57

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

A
Rational Procedure
in
Summer Diarrhea

For Infants
of any age

Mellin's Food
4 level tablespoonfuls
Water (boiled, then cooled)
16 fluidounces

Give one to three ounces every hour or two, according to the age of the baby, continuing until stools lessen in number and improve in character.

Milk, preferably skimmed, may then be substituted for water — one ounce each day — until regular proportions of milk and water, adapted to the age of the baby, are reached.

Mead's Dextri-Maltose

Removal from the East to the Middle West

OLD FACTORY
Jersey City, 18,000 sq. ft. floor space.

Mead's Dextri-Maltose having exhausted the manufacturing capacity of its old home in Jersey City, N. J., has been removed to a new and vastly larger housing in Evansville, Ind., a location nearer the raw materials used in its production and nearer the center of transportation.

***A result of making an excellent food ingredient for bottle babies and distributing it through physicians only*—90 per cent.** of the real infant feeders in the United States are now using (wholly or partly) Mead's Dextri-Maltose to supplement the sugar deficiency of cows' milk. The future address of the makers of Mead's Dextri-Maltose will be

NEW PLANT—Sixteen Times Larger than Old. 300,000 sq. ft. of floor space.

Mead Johnson & Company
Evansville, Ind.

CONTENTS — *Continued*

Cancer Department 58

The Death of Dr. J. B. Maloney 59

The National Board of Medical Examiners of the United States 59

REVIEWS FROM CURRENT LITERATURE

Painless Labor 61

Pituitary Extract 61

REVIEWS FROM CURRENT LITERATURE

Infantile Paralysis 61

Etiology of Chorea 62

Swimmer's Conjunctivitis 62

Roentgenographic Diagnosis 63

Publisher's Notes 63

NEW ORLEANS POLYCLINIC

Graduate School of Medicine, Tulane University of Louisiana
Thirtieth Annual Session opens September 25, 1916, and closes June 9, 1917

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, including laboratory and cadaveric work. For further information, address

CHARLES CHASSAIGNAC, M. D., Dean

Post Office Drawer 770 New Orleans Polyclinic New Orleans, La.

Tulane also offers highest class education leading to degrees in Medicine, Pharmacy, Dentistry, Hygiene and Tropical Medicine

LAURENCE EVERHART

208 Flatiron Building, ATLANTA, GEORGIA

Physicians', Surgeons' and Hospital Supplies

Write for prices on Surgical Instruments, Ligatures and Dressings, Microscopes and Accessories. Furniture for Hospital or Office, Rubber Goods, etc.
"EVERYTHING for the DOCTOR"
Reference: Lowry Nat. Bank of Atlanta

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

HOLMES SANATORIUM

Corner Fourth Avenue and East First Street, ROME, GEORGIA
J. B. S. HOLMES, M. D., Surgeon-in-Chief

For Surgical and Gynecological Cases

CHARTERED TRAINING SCHOOL FOR NURSES

PETTEY & WALLACE SANITARIUM

958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

Heard Features

We pay 4 per cent. compound the interest quarterly, and add the amount to the principal.

Deposits made by the 10th of the month draw interest from the first.

No notice of withdrawal is necessary.

The Heard National Bank of Jacksonville

RESOURCES MORE THAN $5,000,000

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

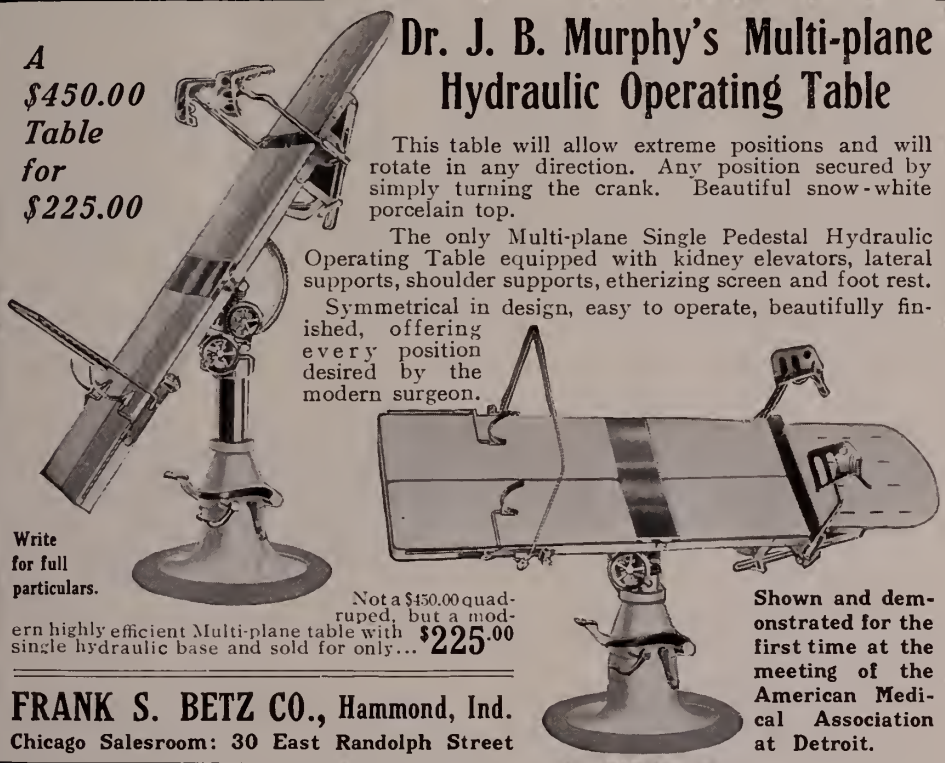
A $450.00 Table for $225.00

Dr. J. B. Murphy's Multi-plane Hydraulic Operating Table

This table will allow extreme positions and will rotate in any direction. Any position secured by simply turning the crank. Beautiful snow-white porcelain top.

The only Multi-plane Single Pedestal Hydraulic Operating Table equipped with kidney elevators, lateral supports, shoulder supports, etherizing screen and foot rest.

Symmetrical in design, easy to operate, beautifully finished, offering every position desired by the modern surgeon.



Write for full particulars.

Not a $450.00 quadruped, but a modern highly efficient Multi-plane table with single hydraulic base and sold for only... **$225.00**

Shown and demonstrated for the first time at the meeting of the American Medical Association at Detroit.

FRANK S. BETZ CO., Hammond, Ind.

Chicago Salesroom: 30 East Randolph Street

THE PHYSICIAN CAN RELY UPON

HORLICK'S

The Original Malted Milk

as a protection against unsanitary milk

Owing to the facilities possessed by the company to obtain clean milk throughout the year of uniform quality, as evidenced by the careful selection of herds and stringent regulations that are in force in all of their dairies.

HORLICK'S MALTED MILK is secure from contamination, is put up in sterilized containers, is constant in composition, and is easily kept in the humblest home in the hottest weather without deteriorating.

It makes possible the carrying-out of a progressive method of feeding that conserves the best interests of the weakest baby

See that your patients get "HORLICK'S" the Original, and thus avoid substitution

HORLICK'S MALTED MILK COMPANY

RACINE, WISCONSIN

BULLETIN No. 8

Why Should Advertisers Use Space in this Journal?

FIRST:—It is the **official** Medical Journal in this state. It is published by the State Medical Association.

SECOND:—It **covers** its field, and **confines** its circulation to it. No other journal does.

THIRD:—It has **more circulation** in its territory than any other medical journal. This makes it the **logical advertising** medium for its own field.

FOURTH:—The readers are **joint owners** in The Journal. They supply the reading matter. This gives them a **personal** interest in all its pages.

FIFTH:—This Journal is not published for the **profit of any individual,** but is published solely in the interest of all the members of the State Medical Association. This gives a **superior value** to our advertising pages.

SIXTH:—All the readers are physicians. They are members of their own County Medical Society. This indicates their professional standing and influence in their own communities.

SEVENTH:—Equable circulation among all the members of all the County Medical Societies throughout the state, guarantees advertisers their goods will be called for in cities, small towns, and even rural districts, thus **creating a demand** for their goods from druggists and merchants whom traveling salesmen have not visited.

EIGHTH:—As the subscribers are the owners of this Journal, they naturally take an active interest in the advertisements, and **patronize** the firms that **patronize** them.

NINTH:—We accept none but **approved** advertisements. Our moral guarantee goes with every advertisement we print. Our readers know these facts, have confidence in the advertisements and buy from our advertisers.

TENTH:—The **ethical character** both of our readers and our advertisers is an assurance that **deserving producers** are thus brought into intimate touch with **discriminating buyers.**

ELEVENTH:—This Journal gives advertisers a **sworn statement** of its average circulation, covering a period of six months, **not for one** special issue only. Our rates are **reasonable,** based on circulation, **quality** of the medium, and the fact that it is a **special publication** for a **special field.**

TWELFTH:—Physicians buy goods for their own homes, hospitals, sanatoriums, and other public institutions. They are connected with Boards of Health and public schools. They inspect milk and foods of all kinds. They are identified with public legislation and sanitation. In the sphere of his own practice the physician is an authority.

Advertisers should inform physicians about their goods. The physician's recommendation of a product, or even his knowledge that it has merit, and is accepted in the advertising pages of his own Journal, is equivalent to his endorsement. The firms which advertise in this Journal are assured of the cooperation of its readers.

For further information write the publisher, or our advertising representative, The Cooperative Medical Advertising Bureau, 535 North Dearborn St., Chicago

Chicago Post Graduate Hospital Uses Holstein Cows' Milk

Dr. Guy K. Durbin-Ries, Treasurer Woman's Auxiliary of Maternity and Children's Department, Post Graduate Hospital, says,—"On consulting with the physician who attends to our sick babies in regard to the best milk we could procure for them he advised, if possible, that we get Holstein milk certified by the Chicago Medical Society. This milk he considered best for infant feeding."

Pediatrists use Holstein milk because it corresponds to human milk more closely than does that of any other cow. The moderate amount of fat it contains is in the form of **globules much smaller and more uniform** than those of the so-called rich milks and therefore offering less resistance to digestion and assimilation. Then, too, the fat contains less of the volatile glycerides that in ordinary milk increase the difficulties of digestion. Specialists lay particular stress upon the constitutional vigor of purebred Holsteins, making them resist disease and yield healthy, vitalizing milk. Send for our free literature. It contains extracts from the works of specialists, and will interest every physician. *Send for our free booklet, "Specialists' Evidence."*

Holstein-Friesian Association of America
F. L. HOUGHTON, Secretary
21-A American Building BRATTLEBORO, VT.

The SHELTER SANITORIUM
HAWKS PARK, FLORIDA
Modern Medicine, Up-to-date Surgery, Scientific Dietary, Balmy Salt Air, Florida Sunshine.

POMPEIAN OLIVE OIL
ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when suggesting Olive Oil to patients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.
THE STANDARD IMPORTED OLIVE OIL

The Principles of Nutrition

are well defined. Milk is one of the most necessary food materials of the body. When pure, it is a wholesome, digestible and nutritious food for all ages. Ordinarily, foods have but one function—to build tissue or yield energy.

Gail Borden
EAGLE BRAND CONDENSED MILK
THE ORIGINAL

does both. Its protein and ash content repair waste tissue, while its fat and carbo-hydrate elements produce heat and muscular energy. It is a safe and dependable food for infants where for any reason Nature's supply fails.

Samples, Analysis, etc., will be mailed upon receipt of professional card.

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Medical Department of
Vanderbilt University

Next Session Opens October 2, 1916, and Closes June 13, 1917

ENTRANCE REQUIREMENTS:

Completion of an accredited four-year high school, or other equivalent of fourteen Carnegie units, without condition. In addition to the high school work all students must take one year of college work, which includes courses in Chemistry, Physics, Biology and a modern language. The total minimum hours, Didactic and Laboratory, in the premedical course are as follows:

Subject.	Total Hours Lectures or Recitations.	Total Hours Laboratory Work.	Total Minimum Hours Didactic and Laboratory.
Physics, 1	64	128	192
Chemistry, 1	64	128	192
Biology, 1	64 or 96	128 or 64	128 or 160
German or French, 2	128 or 96	.....	128 or 96
Totals	320	384 or 320	704 or 640

BUILDINGS, LABORATORIES, ETC.:

The recent purchase of the Peabody Campus with its sixteen acres in the heart of the city gives the Medical Department one of the best and largest campuses in America for medical purposes. The buildings have all been remodeled and the facilities are unsurpassed. Large and commodious laboratories, well lighted and ventilated, for Bacteriology, Chemistry, Physiology, Embryology, Anatomy, Pathology, Pharmacology, Experimental Medicine, etc.

DONATIONS:

The Department has received the following donations within the last few years: Mr. Andrew Carnegie, $1,000,000.00. The General Education Board of New York, $150,000.00 for medical grounds and buildings. Mr. Wm. K. Vanderbilt, $150,000.00 for the general endowment fund, provided the Peabody Campus was purchased for the Medical Department. This provision was met. Mr. Wm. Litterer, a philanthropic citizen of Nashville, has presented a building to the Medical Department, valued at $40,000.00, for Bacteriological research.

CLINICAL FACILITIES:

City Hospital, 185 beds with a large Outdoor Department. Vanderbilt Hospital, 85 beds with a large Outdoor Department. Galloway Memorial Hospital is now in the course of construction and will provide 150 charity beds. This hospital is on the campus. Section of students are also taken to the Davidson County Isolation Hospital and to the Central Hospital for the Insane.

Vanderbilt is rated in Class A by the Council on Medical Education of the A. M. A. and is a member of the Association of American Medical Colleges.

For catalogue and further information address

LUCIUS E. BURCH, M. D., Dean

Eve Building, Nashville, Tenn.

ATLANTA MEDICAL COLLEGE

DEPARTMENT OF MEDICINE

Emory University

Atlanta, Georgia

Sixty-Second Annual Session Begins September 25th, 1916

ADMISSION—Completion of four-year course at an accredited high school, which requires not less than 14 units for graduation, and in addition, one year of college credits in Physics, Biology, Inorganic Chemistry and German or French. The "Premedical" Course will be given in the College of Liberal Arts at Oxford, Ga. Admission to the Premedical Course may be obtained by presenting credentials of the 14 units of high school work.

COMBINATION COURSES—A student may enter the regular Freshman Class on 14 units and attend the College of Liberal Arts for two years, after which he will be admitted to the Freshman Medical Class, and upon the completion of his Sophomore year in the Medical College can obtain the degree of Bachelor of Science, gaining his M. D. degree after another two years at the Medical College.

INSTRUCTION—Thorough laboratory training and systematic clinical teaching are special features of this institution. The faculty is composed of 100 professors and instructors, 15 of whom are full-time salaried men.

EQUIPMENT—Four large, modern buildings devoted exclusively to the teaching of Medicine, well equipped laboratories, and reference library.

HOSPITAL FACILITIES—The Grady (municipal) Hospital (of 250 beds) is in charge of the members of the medical faculty during the entire college session, and Senior students (in small sections) are given daily clinical and bedside instruction there. In the near future work will begin on the new Wesley Memorial Hospital (of 200 beds), at a cost of not less than $200,000.00, which will be erected on or near the site of the present Medical College. The wards of this hospital, when completed, will be under the complete control of the faculty for teaching purposes. The construction of the Out-Patient Building, at a cost of $75,000.00, has already begun and, when completed, will afford ample accommodations for this large clinic, and excellent facilities for clinical instruction.

RATING—This college is rated as a class A medical school by the Council on Medical Education of the American Medical Association.

Catalogue giving full information, also entrance blanks, will be sent by applying to

WM. S. ELKIN, A. B., M. D., Dean.

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address **OSCAR W. SCHLEETER,** *Registrar*

Lucas and Calhoun Streets **Charleston, South Carolina**

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

MR. DOCTOR: May we introduce the

Corona Folding Typewriter

the little machine has all the features of the big hundred dollar instruments including bi-color ribbon, back spacer, universal keyboard, etc., yet can be CARRIED ABOUT WITH YOU VERY EASILY WHEREVER YOU GO.

Office Furniture and Commercial Stationery

TWO BIG STORES DEVOTED EXCLUSIVELY TO THESE LINES

Agency Spaldings' Athletic Goods

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

Eastman KODAK Agency

FINE CORRESPONDENCE STATIONERY, BOOKS ON ALL SUBJECTS PICTURES, ART MATERIALS, HIGH-GRADE PICTURE FRAMING WEDDING AND SOCIETY ENGRAVING, GIFTS FOR ALL OCCASIONS

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY
St. Augustine, Florida

Does Not Deplete the Patient's Strength

by irritating the delicate lining of the intestines and inducing undue peristaltic activity. On the contrary, it conserves strength by lubricating the entire alimentary canal, thus assisting in a more complete evacuation of the bowel content.

This important characteristic of Stanolind Liquid Paraffin is an eloquent illustration of its superiority over salines, aperient waters and purgative drugs, and is, for example, of signal importance in the cases of patients about to undergo an operation.

Stanolind Liquid Paraffin is a safe and dependable agent for continued internal administration.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company
(*Indiana*) 30a
72 W. Adams St. Chicago, U. S. A.

Too Big a Problem for the Individual

The problem of demonstrating the harmlessness of substances used in foods is too big for the individual doctor. It is so big that the United States Government itself found it necessary to undertake the work. The President of the United States himself selected the men, after consulting with the greatest universities in our country. His aim, in which he was most successful, was to select

Men You Can Trust

These are the ones he selected:

PROF. IRA REMSEN, Johns Hopkins University, Chairman
DR. JOHN H. LONG, Northwestern University
PROF. THEOBALD SMITH, Harvard University
DR. ALONZO E. TAYLOR, University of Pennsylvania
DR. RUSSELL H. CHITTENDEN, Sheffield Scientific School of Yale University

After two years of study and research, they concluded that "Alum, as such is not left in the food" and that "alum baking powders are no more injurious than other baking powders."—U. S. Bulletin of Agriculture No. 103.

As a result of this work by men you can trust, you may, with confidence, adopt for use in your homes and sanitariums, baking powders of the double acting type which contain phosphate and alum.

CALUMET is a Phosphate Powder in which enough of the acid phosphate has been replaced by Sodium Alum (not the drug store alum) to insure its keeping qualities and give the desired speed of action. It is chemically correct.

Pure in the can and pure in the baking

Calumet Baking Powder Co., Chicago, Ill.

LABORATORY of DR. ALLEN H. BUNCE

ATLANTA, GEORGIA

ADEQUATE LABORATORY SERVICE DEMANDS PROMPTNESS AND EFFICIENCY

We are prepared and equipped to give you both the above on all your Clinical Laboratory work

Wasserman Reactions—These are performed each day, except Sundays, after having carried out careful preliminary titrations of all materials to be used in the reactions. All agents used are prepared and standardized in our own laboratory, thus assuring their freshness and reliability.

Autogenous Vaccines—All cultures for vaccines are grown both aerobically and anaerobically as a routine procedure. Vaccines are supplied only in sealed ampules, thus insuring their freedom from contamination during the course of treatment.

Tissues—Upon request we make frozen sections of tissues and telegraph a report on the same day the specimens are received. However we prefer to imbed the tissues in cellodin or paraffin which requires from three to five days, before giving a final report on them. Both reports may be had on request.

We make all other clinical laboratory examinations required by physicians and surgeons in the handling of their cases.

We furnish bleeding tubes, culture media and all other necessary containers free upon request.

Address **ALLEN H. BUNCE, M. D.**
Healey Building, ATLANTA, GEORGIA

LABORATORY OF

DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of Malarial Plasmodia
Feces for Parasites
Smears for Gonococci, Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fees for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

Three Valuable New Publications

Diseases of the Skin

By RICHARD L. SUTTON, M. D., Professor of Diseases of the Skin, University of Kansas Medical School; former Chairman of the Dermatological Section of the American Medical Association; Member of American Dermatological Association, Assistant Surgeon, U. S. N., retired. 1,000 pages, with 700 engravings and seven color plates. Price, cloth $6.50

Diseases of the Digestive Tract

By A. E. AUSTIN, A. M., M. D., former Professor of Physiological Chemistry, Tufts College, University of Virginia, and University of Texas; present Assistant Professor of Clinical Medicine, in charge of Dietetics and Gastrointestinal Diseases, Tufts College; member of American Gastroenterological Association, and American Society of Biological Chemists; Physician to Mt. Sinai Hospital and Berkeley Infirmary; Assistant to Boston Dispensary; Author of "Manual of Clinical Chemistry," etc. 600 pages, with 75 engravings and ten color plates. Price, cloth..... $5.50

Skin Cancer

By H. H. HAZEN, A. M., M. D., Professor of Dermatology, Medical Department of Howard University and Georgetown University, Washington, D. C.; sometimes Asst. in Dermatology at Johns Hopkins University; member American Dermatology Association. 250 pages, with 97 engravings and a colored frontispiece. Price, cloth $3.00

THE C. V. MOSBY COMPANY
MEDICAL PUBLISHERS
801-806 Metropolitan Building
St. Louis, U. S. A.

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

The Storm Binder
and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones
No Rubber Elastic
Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.
1541 Diamond Street PHILADELPHIA, PA.

SHERMAN'S BACTERINS

Preparations with a record for
RELIABILITY
31 different varieties

Typhoid Fever
yields more readily to
Typhoid Vaccine
than to any other remedy. When given early it often aborts the course of the disease.

Write for Literature.

G. H. SHERMAN, M. D.
DETROIT, MICHIGAN

Daily users of Vaccines use Sherman's

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets Phone Numbers 6 and 1261

University *of* Georgia

Medical Department
Augusta, Georgia

The eighty-fifth session begins September 13, 1916; closes May 31, 1917.

Entrance Requirements—Candidates for entrance must have completed one full year of work in an approved college in addition to four years in high school. The college work must have included Physics, Chemistry, Biology, and French or German. These requirements are passed upon by the department of Secondary Education of the University. ¶ **Instruction**—The course of instruction occupies four years. The first two years are devoted to the fundamental sciences, and the third and fourth to practical clinical instruction in medicine and surgery. All the organized medical and surgical charities of the city of Augusta and Richmond county, including the hospitals, are under the entire control of the Board of Trustees of the University. This arrangement affords a large number and variety of patients which are used in the clinical teaching Especial emphasis is laid upon practical work both in the laboratory and clinical departments. **Tuition**—The charge for tuition is **$150.00** a year except for residents of the State of Georgia, to whom tuition is free. *For further information and catalogue, address* **The Medical Department, University of Georgia, Augusta, Georgia**

COUNTY SOCIETY OFFICERS

ALACHUA COUNTY.

J. C. Bishop, Gainesville, *President.*
W. J. Buck, Gainesville, *Secretary-Treasurer.*

BAY COUNTY.

J. Ambus Wells, St. Andrews Quarantine, *President.*
W. D. Cauthon, Panama City, *Secretary-Treasurer.*

BRADFORD COUNTY.

J. P. Tomlinson, Starke, *President.*
A. H. Freeman, Starke, *Secretary-Treasurer.*

BREVARD COUNTY.

L. H. Martin, Melbourne, *President.*
J. C. Spell, Titusville, *Secretary-Treasurer.*

CALHOUN COUNTY.

G. T. Crozier, Blountstown, *President.*
S. S. Bridges, Blountstown, *Secretary.*
E. B. Reeder, Clarksville, *Treasurer.*

COLUMBIA COUNTY.

L. M. Anderson, Lake City, *President*
J. P. Long, Lake City, *Secretary.*

DADE COUNTY.

C. F. Sayles, Miami, *President.*
G. H. Benton, Miami, *Secretary.*

DeSOTO COUNTY.

D. L. McSwain, Arcadia, *President.*
M. L. Crum, Bowling Green, *Secretary-Treasurer.*

DUVAL COUNTY.

J. H. Pittman, Jacksonville, *President.*
H. O. Black, Jacksonville, *Secretary-Treasurer.*

ESCAMBIA COUNTY.

L. deM. Blocker, Pensacola, *President.*
F. A. Brink, Pensacola, *Secretary.*
M. A. Lischkoff, Pensacola, *Treasurer.*

HILLSBOROUGH COUNTY.

D. L. S. Oppenhiemer, Tampa, *President.*
E. H. McRae, Tampa, *Secretary.*
W. C. Douglas, Tampa, *Treasurer.*

JACKSON COUNTY.

D. C. Campbell, Marianna, *President.*
G. S. Hodges, Marianna, *Secretary-Treasurer.*

JEFFERSON COUNTY.

J. R. McEachern, Monticello, *President.*
J. B. Brinson, Monticello, *Secretary-Treasurer.*

LAKE COUNTY.

C. M. Roberts, Umatilla, *President.*
W. P. McKee, Eustis, *Secretary-Treasurer.*

LEON COUNTY.

Ralph N. Greene, Chattahoochee, *President.*
F. Clifton Moor, Tallahassee, *Secretary-Treasurer.*

MARION COUNTY.

D. M. Smith, Ocala, *President.*
J. Harry Walters, Ocala, *Secretary-Treasurer.*

MANATEE COUNTY.

J. B. Leffingwell, Bradentown, *President.*
S. G. Hollingsworth, Bradentown, *Secretary-Treasurer.*

MONROE COUNTY.

J. Y. Porter, Jr., Key West, *President.*
J. B. Maloney, Key West, *Secretary-Treasurer.*

ORANGE COUNTY.

S. Puleston, Sanford, *President.*
C. A. Boone, Orlando, *Secretary-Treasurer.*

OSCEOLA COUNTY.

M. J. Hicks, Kissimmee, *President.*
H. S. Geiger, Kissimmee, *Secretary-Treasurer.*

PASCO COUNTY.

H. O. Byrd, Trilby, *President.*
H. W. Wade, Dade City, *Secretary-Treasurer.*

PINELLAS COUNTY.

A. P. Albaugh, Tarpon Springs, *President.*
W. M. Davis, St. Petersburg, *Secretary-Treasurer.*

POLK COUNTY.

J. M. Oglesby, Bartow, *President.*
Herman Watson, Lakeland, *Secretary-Treasurer.*

PUTNAM COUNTY.

G. E. Welch, Palatka, *President.*
J. C. Chandler, Palatka, *Secretary-Treasurer.*

SANTA ROSA COUNTY.

A. C. Carter, Milton, *President.*
Z. V. Johnson, Milton, *Secretary-Treasurer.*

SUWANNEE COUNTY.

J. M. Price, Live Oak, *President.*
J. W. West, Live Oak, *Secretary-Treasurer.*

ST. LUCIE COUNTY.

E. VanLandinham, Ft. Pierce, *President.*
B. L. Whitten, Ft. Pierce, *Secretary-Treasurer.*

SUMTER COUNTY.

R. C. Hubbard, Bushnell, *President.*
H. Watson, Webster, *Secretary-Treasurer.*

VOLUSIA COUNTY.

F. J. Walter, Daytona, *President.*
Davis Forster, New Smyrna, *Secretary-Treasurer.*

WALTON COUNTY.

E. P. Webb, Laurelhill, *President.*
D. H. Simmons, DeFuniak Springs, *Secretary-Treasurer.*

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

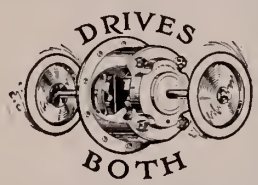
The Atlantic Beach Hotel is situated seventeen miles from Jacksonville, on brick and cement boulevard, and is one of the many hotels built by the late Henry M. Flagler, later sold to the Atlantic Beach Corporation, and is perfect in all its appointments.

Fishing, hunting, golf—18 and 9-hole courses—thirty-five miles of automobile driving on beach as hard as a macadam road and 700 feet wide; tennis, billiards, bowling and pool. Open the entire year.

For rates and booklets address

H. M. STANFORD

PROPRIETOR AND MANAGER



Safe Driving Over Bad Roads

Sticky clay, soft mud or sand will have no terrors for you if your car is equipped with the

Bailey Gearless Differential

Power is always delivered to the solidly-grounded wheel where it is needed. The loose wheel doesn't spin, "sandpapering" the tire. Slipping, skidding and sidesway are eliminated. A better, surer safeguard than chains. Easily installed. Sold on 30-day money back offer. See supply dealer or write for circular.

Replacements now ready for Ford, Overland and Chevrolet, 490

GEARLESS DIFFERENTIAL COMPANY, 905 Woodward Avenue, Detroit, Michigan

It Pays to Advertise

IN

The Journal of The Florida Medical Association

Which Mineral Oil Is Best for Medical and Surgical Use

?

1. That oil which is free from paraffin and all toxic irritating or otherwise undesirable elements, such as anthracene, phenanthrene, chrysene, phenols, oxidized acid and basic bodies, organic sulphur compounds and foreign inorganic matter; because an oil of such purity will pass through the gastro-intestinal tract without causing irritation or other untoward effects.

2. That oil which possesses the highest natural viscosity, with the highest specific gravity, because such an oil will pass through the intestine more slowly than a lighter and thinner oil and lubricate the walls of the gut more completely, and soften fæces more effectually, and is not likely to produce dribbling.

3. That oil which is really colorless, odorless and tasteless, because palatability favors persistence in treatment.

The oil which meets all these requirements is

Liquid Petrolatum, Squibb

Heavy (Californian)

It is a pure, colorless, odorless and tasteless **Mineral Oil,** specially refined under our control only by the *Standard Oil Company of California* which has no connection with any other Standard Oil Company. This oil has the very high specific gravity of 0.886 to 0.892 at 15°C. (or 0.881 to 0.887 at 25°C.) and has also an exceptionally high natural viscosity. It is sold only under the Squibb label and guaranty and may be had at all leading drug stores.

E. R. SQUIBB & SONS, New York

Hay Fever: Adrenalin

The suprarenal substance, in the form of its isolated active principle, Adrenalin, is the chief reliance of a host of physicians.

And well it justifies their confidence.

Adrenalin effectually controls the nasal discharge. It cuts short the violent sneezing paroxysms. It aborts the annoying lacrimation. Nasal obstruction disappears under its use. Natural breathing is resumed. Distress gives way to comfort.

Adrenalin Chloride Solution

Adrenalin Chloride, 1 part; physiologic salt solution (with 0.5% Chloretone), 1000 parts.

Dilute with four to five times its volume of physiologic salt solution and spray into the nares and pharynx.

Ounce glass-stoppered bottles.

Adrenalin Inhalant

Adrenalin Chloride, 1 part; an aromatized neutral oil base (with 3% Chloretone), 1000 parts.

Administer full strength or dilute with three to four times its volume of olive oil, spraying into the nares and pharynx.

Ounce glass-stoppered bottles.

THE GLASEPTIC NEBULIZER

is an ideal instrument for spraying the solutions above mentioned. It produces a fine spray and is suited to oils of all densities, as well as aqueous, spirituous and ethereal liquids. *Price, complete (with throat-piece), $1.25.*

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

FORTY-FOURTH ANNUAL SESSION — ATLANTIC BEACH — MAY, 1917

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III
No. 3

St. Augustine and Jacksonville, Fla., Sept., 1916

Yearly Subscription, $1.00
Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

Fracture of the Neck of the Femur, John Reeve, M. D 65

Fractures at the Elbow, R. A. Ely, M. D..... 69

A Study of 184 Blood Examinations from the Standpoint of the Malarial Index in Acute Febrile Conditions, J. S. Turberville, M. D. 71

Some of the Symptoms of Pancreatitis, M. G. Chancey, M. D..... 73

Appendicitis Complicating Pregnancy, Charles L. Jennings, M. D..... 82

Report of Urologic Cases, E. P. Merritt, M. D. 86

Propaganda for Reform 87

EDITORIALS

Perpetuating Patents by Trade Names..... 88

Medical Corps, U. S. Navy..... 89

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

In
Diarrhea of Infants

There are three important rules that should be rigidly observed—

Stop at once the giving of milk in any form.
Thoroughly clean out the intestinal tract.
Give nourishment composed of food elements capable of being absorbed with minimum digestive effort.

A diet that meets the condition is prepared as follows:

Mellin's Food - - - - - 4 level tablespoonfuls
Water (boiled, then cooled) - 16 ounces
(Composition — maltose, dextrins, proteins and alkaline salts)
(Calories per fluidounce = 6.2)

Feed small amounts at frequent intervals

As soon as the stools lessen in number and improve in character, gradually build up the diet by substituting one ounce of skimmed milk for one ounce of water until the amount of skimmed milk is equal to the quantity of milk usually given for the age of the infant. *Do not give any milk fat until the baby has completely recovered.*

MELLIN'S FOOD COMPANY, BOSTON, MASS.

For Infants in Difficult Feeding Cases

Mead's Dry Malt Soup Stock

(Desiccated Maltose and Dextrin—Wheat Flour and Potassium Carbonate)

is different from other carbohydrate preparations.

Its **Dextri Maltose**—47%—is ideally suited for the nutrition of the sick infant because it produces less disturbances in metabolism than any other sugar.

Its **Wheat Flour**—47%—is a very important element. The starch of the flour becoming gelatinized by boiling acts as a protection to the mucous membrane of the intestine by preventing a too rapid absorption of sugar.

Its **Potassium Carbonate**—1%—an essential ingredient to insure successful results.

If an acid intoxication exists, the deficiency of alkali caused thereby must be replaced and further loss of alkali prevented. The addition of K_2CO_3 corrects this deleterious acid condition by neutralizing acids.

A properly balanced and scientifically compounded palatable and readily digested food. Will keep permanently and is simple to prepare.

Indicated in Diarrhoea persisting for a prolonged period and in cases that do not properly digest sugars—also in marasmus.

Malt Soup is as easily prepared from Mead's Dry Malt Soup Stock, as any of the ordinary feedings. Full Descriptive Literature and Sample Package Mailed Free on Request.

MEAD JOHNSON & COMPANY, Evansville, Ind.

CONTENTS—*Continued*

Making Good Indians by Having No Sick Indians 89

Fraudulent Infantile Paralysis "Cures"..... 90

Obituary—John B. Maloney, M. D..... 91

New York State Civil Service Commission.. 92

REVIEWS FROM CURRENT LITERATURE

Infantile Paralysis 92

Wassermann Reaction in Pregnancy..... 93

Creolin in Scabies 94

Asthma in Children 94

Constipation in Infants 94

The Cranial Nerves..... 95

Pathogenic Yeasts 95

Publisher's Notes 95

NEW ORLEANS POLYCLINIC

Graduate School of Medicine, Tulane University of Louisiana

Thirtieth Annual Session opens September 25, 1916, and closes June 9, 1917

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, including laboratory and cadaveric work. For further information, address

CHARLES CHASSAIGNAC, M. D., Dean

Post Office Drawer 770 New Orleans Polyclinic New Orleans, La.

Tulane also offers highest class education leading to degrees in Medicine, Pharmacy, Dentistry, Hygiene and Tropical Medicine

LAURENCE EVERHART

208 Flatiron Building, ATLANTA, GEORGIA

Physicians', Surgeons' and Hospital Supplies

Write for prices on Surgical Instruments, Ligatures and Dressings, Microscopes and Accessories. Furniture for Hospital or Office, Rubber Goods, etc.

"EVERYTHING for the DOCTOR"

Reference: Lowry Nat. Bank of Atlanta

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

HOLMES SANATORIUM

Corner Fourth Avenue and East First Street, ROME, GEORGIA

J. B. S. HOLMES, M. D., Surgeon-in-Chief

For Surgical and Gynecological Cases

CHARTERED TRAINING SCHOOL FOR NURSES

PETTEY & WALLACE SANITARIUM

958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

Heard Features

We pay 4 per cent. compound the interest quarterly, and add the amount to the principal.

Deposits made by the 10th of the month draw interest from the first.

No notice of withdrawal is necessary.

The Heard National Bank of Jacksonville

RESOURCES MORE THAN $5,000,000

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

Omega Electric Cabinet

A New outfit which has already proved its merit in many physicians' offices

The Omega is our most comprehensive treatment outfit. It is mounted in a beautiful quartered oak cabinet, with white marble switchboards, nickeled fittings, making it an ornament to any office. It delivers more treatment modes than any other outfit manufactured. Over 14 different currents and combinations are at the command of the operator: High Frequency, Morton Wave, Prosphoric, D'Arsonval, Autoinduction, Thermo-Faradic, Sinusoidal, Primary Faradic, Secondary Faradic, Combined Faradic, Cautery and Diagnostic Lamp, etc. In addition to this is the Tankless Air Compressor, delivering Pressure, Vacuum, Pulsation, Massage, besides being suitable for Nebulization, etc.

A special provision has been made for X-Ray work, enabling the operator to radiograph any part of the body in less than 100 seconds.

If you are interested in a treatment outfit that occupies the minimum floor space combining compactness with almost universal utility and power, you will do well to purchase the Omega.

We are able to offer you this masterpiece of electrical engineering, complete with a large number of accessories, for the ridiculously low price quoted below.

A clear saving of $100.00 on prices asked by other manufacturers.

Let us send you our Special Circular on the Omega Cabinet.

FRANK S. BETZ CO., Hammond, Ind.

Chicago Sales Dept: 30 E. Randolph St.

9x180 Omega Complete with Accessories

Price $225.00

This is the Package

(others are imitations)

And is your guarantee and protection against the concerns, who led by the success of the Horlick's Milk Company, are manufacturing imitation malted milks, which cost the consumer as much as "Horlick's"

Always specify

Horlick's, the Original

and avoid substitutes

BULLETIN No. 9

Reasons Why Physicians Should Patronize Advertisers in Their Own State Journal

The reasons why physicians in other states should patronize the advertisers in their Journals, apply as well to you and your Journal. It's perfectly simple: if you will buy goods from the advertisers, you will have a better Journal. Read the "reasons why":—

ARIZONA:—Business firms in other states spend their money in the advertisements to bring the market to us. Ought we not appreciate this and buy goods from them?

ARKANSAS:—These advertisers would not be here if they were not reliable. Your support protects you, helps us, and pleases them.

CALIFORNIA:—The firm that does not advertise its goods to you, does not feel under obligation to sell you what you order. It pays to buy the advertised article.

COLORADO:—This is your Journal. The advertisers help support it. Tell them you saw their announcements in your Journal.

FLORIDA:—We urge our readers to look carefully over our advertising pages, and let it be known we are a live profession and have needs to be filled.

GEORGIA:—Every member of the State Association has an interest in the advertising columns. If one firm advertises and another does not, patronize the one that does. It is money in your pocket.

INDIANA:—It costs you only a 2-cent stamp to write any one of our advertisers, all of whom are anxious to get in touch with you by sending you either samples or catalogs.

IOWA:—Quite a good deal of our advertising is on trial, and unless our readers demonstrate their interest in it, we will lose it.

KANSAS:—Every advertiser in this Journal is paying you for the privilege of telling you about the things he has to sell.

KENTUCKY:—You may depend on our advertisements as a safe and sound business directory.

MAINE:—Look through the advertising pages each month. Place orders with these concerns. Specify their products on your prescriptions.

MARYLAND:—Our readers may depend on the integrity of our advertisers. Reciprocity is not only desirable, it is a good business principle.

MICHIGAN:—Answer the advertisements. This is important. If you are busy, have your wife do it.

MISSOURI:—Anything in the line of physicians' supplies or equipment, can be obtained from firms advertising in the Journal.

NEW JERSEY:—If the goods advertised in this publication are equal in quality (and we hold they are superior in many respects) you should purchase them in preference to those not advertised with us.

NEBRASKA:—The Journal desires to introduce you to the merchants whose goods are advertised, and ask that you become their patrons.

NEW MEXICO:—Write: "I saw it in the New Mexico Medical Journal" whenever opportunity offers. Let us all pull together.

NEW YORK:—Any Medical Journal printing the fraudulent claims contained in the advertisements of the nostrums condemned by the Council on Pharmacy and Chemistry is an accessory to this act of thievery and the subscriber to such journals voluntarily assumes the position of an accomplice.

NORTHWEST:—Prove to our advertisers that advertising in Northwest Medicine is a paying investment. Don't forget to state that the business is sent their way because they advertise in your Journal.

OHIO:—Every dollar spent with our advertisers is a dollar contributed directly to the betterment of your Journal.

OKLAHOMA:—Many of us no doubt are spending in the aggregate large sums of money with houses and companies who never spend anything with us. It is not good business policy to follow such a short-sighted plan.

PENNSYLVANIA:—Most of our members throw circulars in the waste basket and refer to the advertising pages of the Journal for needed information.

SOUTH CAROLINA:—We could not run a Journal without the advertisers, and our constant effort has been to accept only the highest class of business.

TENNESSEE:—The advertisers of the Journal are dependable concerns, who offer the best that is to be had. You are protected when you buy from them.

TEXAS:—Our advertisers are guaranteed to us, and we in turn guarantee them to our readers. Is that worth anything to the prospective buyer?

VERMONT:—If any advertiser is not absolutely honest in his practice, his business is not acceptable.

WEST VIRGINIA:—When writing advertisers, please be sure to mention the fact that you are writing them because you have felt that they deserve support since they are carrying space in our advertising pages.

WISCONSIN:—Goods and institutions advertised in this publication are absolutely reliable, and every dollar spent with your advertisers is a dollar contributed directly toward the maintenance of your Journal.

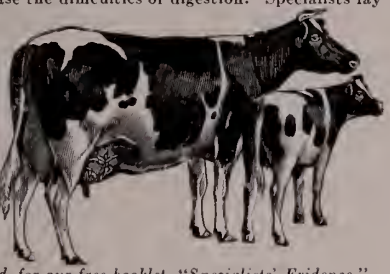
We urge every physician who reads this, to adopt these excellent recommendations in his own practice. Do it for the advancement of ethical medicine; for the immediate benefit it will be to you personally in securing reputable goods, and just prices; to encourage reputable firms to patronize your Journal and for the satisfaction and pride you will have, as a joint owner, in the success of your own Journal.

YOUR EDITOR.

Chicago Post Graduate Hospital Uses Holstein Cows' Milk

Dr. Guy K. Durbin-Ries, Treasurer Woman's Auxiliary of Maternity and Children's Department, Post Graduate Hospital, says,—"On consulting with the physician who attends to our sick babies in regard to the best milk we could procure for them he advised, if possible, that we get Holstein milk certified by the Chicago Medical Society. This milk he considered best for infant feeding."

Pediatrists use Holstein milk because it corresponds to human milk more closely than does that of any other cow. The moderate amount of fat it contains is in the form of **globules much smaller and more uniform** than those of the so-called rich milks and therefore offering less resistance to digestion and assimilation. Then, too, the fat contains less of the volatile glycerides that in ordinary milk increase the difficulties of digestion. Specialists lay particular stress upon the constitutional vigor of purebred Holsteins, making them resist disease and yield healthy, vitalizing milk. Send for our free literature. It contains extracts from the works of specialists, and will interest every physician. *Send for our free booklet, "Specialists' Evidence."*



Holstein-Friesian Association of America
F. L. HOUGHTON, Secretary
21-A American Building BRATTLEBORO, VT.

The SHELTER SANITORIUM
Hawks Park, Florida

Modern Medicine Up-to-date Surgery
Scientific Dietary Balmy Salt Air
FLORIDA SUNSHINE

POMPEIAN OLIVE OIL
ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when suggesting Olive Oil to patients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.
THE STANDARD IMPORTED OLIVE OIL

When Breast Milk Fails

the physician will find in Gail Borden Eagle Brand Condensed Milk a satisfying and satisfactory substitute. It is especially useful in gastro-intestinal disorders of infants.

Gail Borden
EAGLE BRAND CONDENSED MILK
THE ORIGINAL

is advised because it is safe and wholesome, uniform in composition, easily assimilated and simple to prepare. During the warm months a safe milk supply is of the utmost importance.

Write today for samples, analysis, Feeding Charts in any language, and our 52-page book, "Baby's Welfare."

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

ATLANTA MEDICAL COLLEGE

DEPARTMENT OF MEDICINE

Emory University

Atlanta, Georgia

Sixty-Second Annual Session Begins September 25th, 1916

ADMISSION—Completion of four-year course at an accredited high school, which requires not less than 14 units for graduation, and in addition, one year of college credits in Physics, Biology, Inorganic Chemistry and German or French. The "Premedical" Course will be given in the College of Liberal Arts at Oxford, Ga. Admission to the Premedical Course may be obtained by presenting credentials of the 14 units of high school work.

COMBINATION COURSES—A student may enter the regular Freshman Class on 14 units and attend the College of Liberal Arts for two years, after which he will be admitted to the Freshman Medical Class, and upon the completion of his Sophomore year in the Medical College can obtain the degree of Bachelor of Science, gaiuing his M. D. degree after another two years at the Medical College.

INSTRUCTION—Thorough laboratory training and systematic clinical teaching are special features of this institutiou. The faculty is composed of 100 professors and instructors, 15 of whom are full-time salaried men.

EQUIPMENT—Four large, modern buildings devoted exclusively to the teaching of Medicine, well equipped laboratories, and reference library.

HOSPITAL FACILITIES—The Grady (municipal) Hospital (of 250 beds) is in charge of the members of the medical faculty during the entire college session, and Senior stndents (in small sections) are given daily clinical and bedside instruction there. In the near futnre work will begin ou the new Wesley Memorial Hospital (of 200 beds), at a cost of not less than $200,000.00, which will be erected on or near the site of the present Medical College. The wards of this hospital, when completed, will be under the complete control of the faculty for teaching purposes. The coustruction of the Out-Patient Building, at a cost of $75,000.00, has already begun and, when completed, will afford ample accomnodations for this large clinic, and excellent facilities for clinical iustruction.

RATING—This college is rated as a class A medical school by the Council on Medical Education of the American Medical Association.

Catalogue giving full information, also entrance blanks, will be sent by applying to

WM. S. ELKIN, A. B., M. D., Dean.

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address **OSCAR W. SCHLEETER,** *Registrar*

Lucas and Calhoun Streets — Charleston, South Carolina

Medical Department of
Vanderbilt University

Next Session Opens October 2, 1916, and Closes June 13, 1917

ENTRANCE REQUIREMENTS:

Completion of an accredited four-year high school, or other equivalent of fourteen Carnegie units, without condition. In addition to the high school work all students must take one year of college work, which includes courses in Chemistry, Physics, Biology and a modern language. The total minimum hours, Didactic and Laboratory, in the premedical course are as follows:

Subject.	Total Hours Lectures or Recitations.	Total Hours Laboratory Work.	Total Minimum Hours Didactic and Laboratory.
Physics, 1	64	128	192
Chemistry, 1	64	128	192
Biology, 1	64 or 96	128 or 64	128 or 160
German or French, 2	128 or 96	.....	128 or 96
Totals	320	384 or 320	704 or 640

BUILDINGS, LABORATORIES, ETC.:

The recent purchase of the Peabody Campus with its sixteen acres in the heart of the city gives the Medical Department one of the best and largest campuses in America for medical purposes. The buildings have all been remodeled and the facilities are unsurpassed. Large and commodious laboratories, well lighted and ventilated, for Bacteriology, Chemistry, Physiology, Embryology, Anatomy, Pathology, Pharmacology, Experimental Medicine, etc.

DONATIONS:

The Department has received the following donations within the last few years: Mr. Andrew Carnegie, $1,000,000.00. The General Education Board of New York, $150,000.00 for medical grounds and buildings. Mr. Wm. K. Vanderbilt, $150,000.00 for the general endowment fund, provided the Peabody Campus was purchased for the Medical Department. This provision was met. Mr. Wm. Litterer, a philanthropic citizen of Nashville, has presented a building to the Medical Department, valued at $40,000.00, for Bacteriological research.

CLINICAL FACILITIES:

City Hospital, 185 beds with a large Outdoor Department. Vanderbilt Hospital, 85 beds with a large Outdoor Department. Galloway Memorial Hospital is now in the course of construction and will provide 150 charity beds. This hospital is on the campus. Section of students are also taken to the Davidson County Isolation Hospital and to the Central Hospital for the Insane.

Vanderbilt is rated in Class A by the Council on Medical Education of the A. M. A. and is a member of the Association of American Medical Colleges.

For catalogue and further information address

LUCIUS E. BURCH, M. D., Dean

Eve Building, Nashville, Tenn.

MR. DOCTOR: May we introduce the

Corona Folding Typewriter

the little machine has all the features of the big hundred dollar instruments including bi-color ribbon, back spacer, universal keyboard, etc., yet can be CARRIED ABOUT WITH YOU VERY EASILY WHEREVER YOU GO.

Office Furniture and Commercial Stationery

TWO BIG STORES DEVOTED EXCLUSIVELY TO THESE LINES

Agency Spaldings' Athletic Goods

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

Eastman KODAK Agency

FINE CORRESPONDENCE STATIONERY, BOOKS ON ALL SUBJECTS PICTURES, ART MATERIALS, HIGH-GRADE PICTURE FRAMING WEDDING AND SOCIETY ENGRAVING, GIFTS FOR ALL OCCASIONS

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY
St. Augustine, Florida

Stanolind

Trade-Mark Reg. U. S. Pat. Off.

Liquid Paraffin

(Medium Heavy)

Tasteless—Odorless—Colorless

Is Neither Absorbed Nor Digested

The fact that it is not absorbed by the epithelial cells and consequently not excreted through the milk, makes it a most satisfactory agent for nursing mothers.

Furthermore, Stanolind Liquid Paraffin removes the intestinal toxins, that would otherwise be absorbed into the blood.

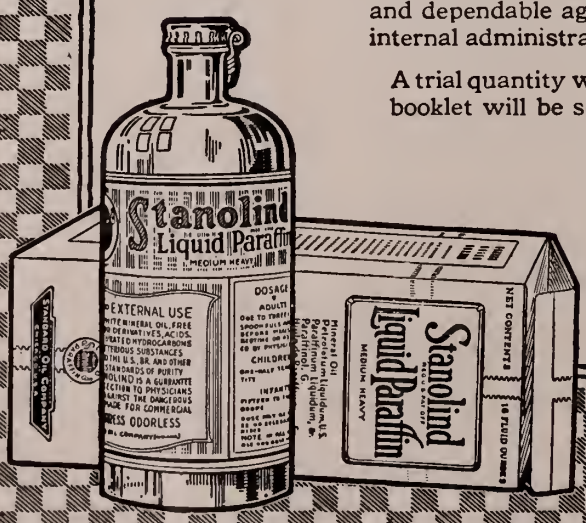
Stanolind Liquid Paraffin acts on the whole intestinal canal, reaching the rectum intact, differing from a vegetable oil, the larger portion of which is digested and absorbed.

Stanolind Liquid Paraffin is a safe and dependable agent for continued internal administration.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company
(Indiana)
72 W. Adams St.
Chicago, U. S. A.

31a



THE DOCTOR will tell you that never in the history of the world has there been so much thought given to Purity in Foods.

THE CHILDREN in our public schools are being taught the principles of nutrition and the scientific choice of pure foods.

THE GOVERNMENT has established a new department where the housewife can obtain information about pure foods.

THE MANUFACTURER in a modern, sanitary factory, advised by scientific experts, produces in a state of exceptional purity and efficiency the leavening agent used in millions of American homes.

Calumet Baking Powder

ONCE TRIED,—ALWAYS CHOSEN

Pure in the Can, Pure in the Baking

Special terms for hospitals, sanitariums, etc.

LABORATORY of DR. ALLEN H. BUNCE

ATLANTA, GEORGIA

ADEQUATE LABORATORY SERVICE DEMANDS PROMPTNESS AND EFFICIENCY

We are prepared and equipped to give you both the above on all your Clinical Laboratory work

Wasserman Reactions—These are performed each day, except Sundays, after having carried out careful preliminary titrations of all materials to be used in the reactions. All agents used are prepared and standardized in our own laboratory, thus assuring their freshness and reliability.

Autogenous Vaccines—All cultures for vaccines are grown both aerobically and anaerobically as a routine procedure. Vaccines are supplied only in sealed ampules, thus insuring their freedom from contamination during the course of treatment.

Tissues—Upon request we make frozen sections of tissues and telegraph a report on the same day the specimens are received. However we prefer to imbed the tissues in cellodin or paraffin which requires from three to five days, before giving a final report on them. Both reports may be had on request.

We make all other clinical laboratory examinations required by physicians and surgeons in the handling of their cases.

We furnish bleeding tubes, culture media and all other necessary containers free upon request.

Address **ALLEN H. BUNCE, M. D.**
Healey Building, ATLANTA, GEORGIA

LABORATORY OF
DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation
for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of
Malarial Plasmodia
Feces for Parasites
Smears for Gonococci,
Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fees for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

Three Valuable New Publications

Diseases of the Skin

By RICHARD L. SUTTON, M. D., Professor of Diseases of the Skin, University of Kansas Medical School; former Chairman of the Dermatological Section of the American Medical Association; Member of American Dermatological Association, Assistant Surgeon, U. S. N., retired. 1,000 pages, with 700 engravings and seven color plates. Price, cloth $6.50

Diseases of the Digestive Tract

By A. E. AUSTIN, A. M., M. D., former Professor of Physiological Chemistry, Tufts College, University of Virginia, and University of Texas; present Assistant Professor of Clinical Medicine, in charge of Dietetics and Gastrointestinal Diseases, Tufts College; member of American Gastroenterological Association, and American Society of Biological Chemists; Physician to Mt. Sinai Hospital and Berkeley Infirmary; Assistant to Boston Dispensary; Author of "Manual of Clinical Chemistry," etc. 600 pages, with 75 engravings and ten color plates. Price, cloth..... $5.50

Skin Cancer

By H. H. HAZEN, A. M., M. D., Professor of Dermatology, Medical Department of Howard University and Georgetown University, Washington, D. C.; sometimes Asst. in Dermatology at Johns Hopkins University; member American Dermatology Association. 250 pages, with 97 engravings and a colored frontispiece. Price, cloth $3.00

THE C. V. MOSBY COMPANY
MEDICAL PUBLISHERS
801-806 Metropolitan Building
St. Louis, U. S. A.

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

The Storm Binder and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones

No Rubber Elastic

Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.

1541 Diamond Street PHILADELPHIA, PA.

SHERMAN'S BACTERINS

Preparations with a record for

RELIABILITY

31 different varieties

Typhoid Fever yields more readily to Typhoid Vaccine than to any other remedy. When given early it often aborts the course of the disease.

Write for Literature.

G. H. SHERMAN, M. D.

DETROIT, MICHIGAN

Daily users of Vaccines use Sherman's

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets Phone Numbers 6 and 1261

University *of* Georgia

Medical Department

Augusta, Georgia

The eighty-fifth session begins September 13, 1916; closes May 31, 1917.

Entrance Requirements—Candidates for entrance must have completed one full year of work in an approved college in addition to four years in high school. The college work must have included Physics, Chemistry, Biology, and French or German. These requirements are passed upon by the department of Secondary Education of the University. ¶ **Instruction**—The course of instruction occupies four years. The first two years are devoted to the fundamental sciences, and the third and fourth to practical clinical instruction in medicine and surgery. All the organized medical and surgical charities of the city of Augusta and Richmond county, including the hospitals, are under the entire control of the Board of Trustees of the University. This arrangement affords a large number and variety of patients which are used in the clinical teaching Especial emphasis is laid upon practical work both in the laboratory and clinical departments. **Tuition**—The charge for tuition is **$150.00** a year except for residents of the State of Georgia, to whom tuition is free. *For further information and catalogue, address* **The Medical Department, University of Georgia, Augusta, Georgia**

COUNTY SOCIETY OFFICERS

ALACHUA COUNTY.

J. C. Bishop, Gainesville, *President.*
W. J. Buck, Gainesville, *Secretary-Treasurer.*

BAY COUNTY.

J. Ambus Wells, St. Andrews Quarantine, *President.*
W. D. Cauthon, Panama City, *Secretary-Treasurer.*

BRADFORD COUNTY.

J. P. Tomlinson, Starke, *President.*
A. H. Freeman, Starke, *Secretary-Treasurer.*

BREVARD COUNTY.

L. H. Martin, Melbourne, *President.*
J. C. Spell, Titusville, *Secretary-Treasurer.*

CALHOUN COUNTY.

G. T. Crozier, Blountstown, *President.*
S. S. Bridges, Blountstown, *Secretary.*
E. B. Reeder, Clarksville, *Treasurer.*

COLUMBIA COUNTY.

L. M. Anderson, Lake City, *President*
J. P. Long, Lake City, *Secretary.*

DADE COUNTY.

C. F. Sayles, Miami, *President.*
G. H. Benton, Miami, *Secretary.*

DeSOTO COUNTY.

D. L. McSwain, Arcadia, *President.*
M. L. Crum, Bowling Green, *Secretary-Treasurer.*

DUVAL COUNTY.

J. H. Pittman, Jacksonville, *President.*
H. O. Black, Jacksonville, *Secretary-Treasurer.*

ESCAMBIA COUNTY.

L. deM. Blocker, Pensacola, *President.*
F. A. Brink, Pensacola, *Secretary.*
M. A. Lischkoff, Pensacola, *Treasurer.*

HILLSBOROUGH COUNTY.

D. L. S. Oppenhiemer, Tampa, *President.*
E. H. McRae, Tampa, *Secretary.*
W. C. Douglas, Tampa, *Treasurer.*

JACKSON COUNTY.

D. C. Campbell, Marianna, *President.*
G. S. Hodges, Marianna, *Secretary-Treasurer.*

JEFFERSON COUNTY.

J. R. McEachern, Monticello, *President.*
J. B. Brinson, Monticello, *Secretary-Treasurer.*

LAKE COUNTY.

C. M. Roberts, Umatilla, *President.*
W. P. McKee, Eustis, *Secretary-Treasurer.*

LEON COUNTY.

Ralph N. Greene, Chattahoochee, *President.*
F. Clifton Moor, Tallahassee, *Secretary-Treasurer.*

MARION COUNTY.

D. M. Smith, Ocala, *President.*
J. Harry Walters, Ocala, *Secretary-Treasurer.*

MANATEE COUNTY.

J. B. Leffingwell, Bradentown, *President.*
S. G. Hollingsworth, Bradentown, *Secretary-Treasurer.*

MONROE COUNTY.

J. Y. Porter, Jr., Key West, *President.*
J. B. Maloney, Key West, *Secretary-Treasurer.*

ORANGE COUNTY.

S. Puleston, Sanford, *President.*
C. A. Boone, Orlando, *Secretary-Treasurer.*

OSCEOLA COUNTY.

M. J. Hicks, Kissimmee, *President.*
H. S. Geiger, Kissimmee, *Secretary-Treasurer.*

PASCO COUNTY.

H. O. Byrd, Trilby, *President.*
H. W. Wade, Dade City, *Secretary-Treasurer.*

PINELLAS COUNTY.

A. P. Albaugh, Tarpon Springs, *President.*
W. M. Davis, St. Petersburg, *Secretary-Treasurer.*

POLK COUNTY.

J. M. Oglesby, Bartow, *President.*
Herman Watson, Lakeland, *Secretary-Treasurer.*

PUTNAM COUNTY.

G. E. Welch, Palatka, *President.*
J. C. Chandler, Palatka, *Secretary-Treasurer.*

SANTA ROSA COUNTY.

A. C. Carter, Milton, *President.*
Z. V. Johnson, Milton, *Secretary-Treasurer.*

SUWANNEE COUNTY.

J. E. Pennington, Welborn, *President.*
T. S. Anderson, Live Oak, *Secretary-Treasurer.*

ST. LUCIE COUNTY.

E. VanLandinham, Ft. Pierce, *President.*
B. L. Whitten, Ft. Pierce, *Secretary-Treasurer.*

SUMTER COUNTY.

R. C. Hubbard, Bushnell, *President.*
H. Watson, Webster, *Secretary-Treasurer.*

VOLUSIA COUNTY.

F. J. Walter, Daytona, *President.*
Davis Forster, New Smyrna, *Secretary-Treasurer.*

WALTON COUNTY.

E. P. Webb, Laurelhill, *President.*
D. H. Simmons, DeFuniak Springs, *Secretary-Treasurer.*

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

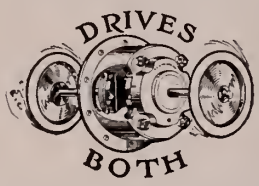
The Atlantic Beach Hotel is situated seventeen miles from Jacksonville, on brick and cement boulevard, and is one of the many hotels built by the late Henry M. Flagler, later sold to the Atlantic Beach Corporation, and is perfect in all its appointments.

Fishing, hunting, golf—18 and 9-hole courses—thirty-five miles of automobile driving on beach as hard as a macadam road and 700 feet wide; tennis, billiards, bowling and pool. Open the entire year.

For rates and booklets address

H. M. STANFORD

PROPRIETOR AND MANAGER



Bailey Gearless Differential

"The Best Non-Skid Device on the Market"

That's what dozens of physicians—men who have to drive their cars over all roads and in all weathers—have told us. The positive drive to both rear wheels does eliminate skidding, slipping and sidesway, besides saving fuel and tires. And you can pull easily through bad spots ordinarily impassible. Why not put a Bailey Differential on your Ford, Overland or Chevrolet 490? If you are not entirely satisfied at the end of 30 days, your money will be returned. *See your supply house, or write for circular.*

Gearless Differential Co., 95 Woodward Ave., Detroit, Mich.

It Pays to Advertise

IN

The Journal of The Florida Medical Association

Which Mineral Oil Is Best for Medical and Surgical Use

1. That oil which is free from paraffin and all toxic irritating or otherwise undesirable elements, such as anthracene, phenanthrene, chrysene, phenols, oxidized acid and basic bodies, organic sulphur compounds and foreign inorganic matter; because an oil of such purity will pass through the gastro-intestinal tract without causing irritation or other untoward effects.

2. That oil which possesses the highest natural viscosity, with the highest specific gravity, because such an oil will pass through the intestine more slowly than a lighter and thinner oil and lubricate the walls of the gut more completely, and soften fæces more effectually, and is not likely to produce dribbling.

3. That oil which is really colorless, odorless and tasteless, because palatability favors persistence in treatment.

The oil which meets all these requirements is

Liquid Petrolatum, Squibb

Heavy (Californian)

It is a pure, colorless, odorless and tasteless **Mineral Oil,** specially refined under our control only by the *Standard Oil Company of California* which has no connection with any other Standard Oil Company. This oil has the very high specific gravity of 0.886 to 0.892 at 15°C. (or 0.881 to 0.887 at 25°C.) and has also an exceptionally high natural viscosity. It is sold only under the Squibb label and guaranty and may be had at all leading drug stores.

E. R. SQUIBB & SONS, New York

Sterilized Solutions in Glaseptic Ampoules

SOLUTIONS IN AMPOULES have received the approval of the foremost physicians and surgeons of America and Europe. They have many advantages over solutions prepared in the ordinary manner.

1. They are always ready for use. It is no longer necessary (as in making up solutions from powder or tablet) to wait until water can be sterilized and cooled.

2. The solution is accurately adjusted to contain a specific amount of medicament in each milliliter (Cc.), thus insuring accuracy of dose.

3. The solution is asepticized by heat or by filtration through porcelain, as its nature demands.

4. The drug is treated with the most suitable solvent, whether that be olive oil, distilled water or physiologic salt solution.

5. The hermetically sealed container protects the contents from bacterial contamination and from oxidation.

6. The actinic effect of light is prevented by the impervious cardboard carton in which the ampoules are supplied.

Solutions in ampoules, in a word, are convenient in form, definite in quantity, accurate in dose.

ASK FOR THIS BOOK.—We have just brought out a new edition of our "Ampoules" brochure. The booklet comprises 70 pages in addition to the cover. It contains a full list of our Sterilized Solutions, with therapeutic indications, descriptions of packages, prices, etc. It has a convenient therapeutic index and a useful chapter on hypodermatic medication. Every physician should have this book. A post-card request will bring you a copy.

Detroit, Michigan. **PARKE, DAVIS & CO.**

CANCER NUMBER

FORTY-FOURTH ANNUAL SESSION — ATLANTIC BEACH — MAY, 1917

THE JOURNAL

OF THE

Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III No. 4 | St. Augustine and Jacksonville, Fla., October, 1916 | Yearly Subscription, $1.00 Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

The Cancer Problem, Howard Canning Taylor, M. D. 97

The Advantage of Early Diagnosis and Treatment of Tumors of the Breast, L. F. Carleton, M. D. 103

Report of One Case of Epithelioma Involving Deeper Tissues, Mary Freeman, M. D... 106

An Unusual Location for a Sarcoma: With Report of a Case, P. C. Perry, M. D..... 108

X-Rays and the Living Cell, John D. McRae, M. D. 109

Roentgenotherapy, With Special Reference to Certain Malignant Conditions, Tubercular Adenitis and Eczemas, John P. Long, M. D. 111

The Differential Diagnosis of Lesions in the Upper Right Quadrant, L. J. Efird, M. D. 117

Propaganda for Reform 120

EDITORIALS

Our Cancer Number 122

The Southern Medical Association..... 122

Playing to the Grandstand..... 123

Parke, Davis & Company..... 123

Cancer Department 124

REVIEWS FROM CURRENT LITERATURE

Cancer of the Uterus 125

Chloroma 126

Sarcoma of the Kidney 127

New and Nonofficial Remedies..... 127

Publisher's Notes 128

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines

PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock:

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY

PHARMACEUTICAL AND BIOLOGICAL LABORATORIES INDIANAPOLIS, INDIANA, U. S. A.

A readily assimilated form of sugar

Mead's Dextri-Maltose

(Maltose 52%—Dextrin 41.7%—Sodium Chlorid 2%—Moisture 4.3%)

Supplements the carbohydrate deficiency of cow's milk. Used in all milk mixtures in the same proportions—by weight—as sugar of milk.

With this preparation a definite diet having a known calorific value and suited to the individual patient may be prescribed.

The infant can assimilate about twice as much Malt Sugar (Mead's Dextri-Maltose) as either milk or cane sugar.

Fully descriptive literature and samples free.

MEAD JOHNSON & CO., Evansville, Indiana

MELLIN'S FOOD

In every step in the manufacture of Mellin's Food there is constantly in view the ultimate object of making a product of definite composition

to Accomplish a Definite Purpose.

This purpose is to furnish certain food elements which, when added to cow's milk, make it a suitable food for an infant. The food elements in Mellin's Food—carbohydrates (maltose and dextrins), proteins and salts —when dissolved in water and added to cow's milk so change the balance of nutrition in cow's milk that the resulting modification presents fat, proteins, carbohydrates and salts in the proportion needed

for the Development of Infantile Life.

The success of Mellin's Food, therefore, depends not upon any one of the food elements of which it is made up, but upon the definite composition of "Mellin's Food as a whole" as a means to enable the physician to modify cow's milk to meet the requirements of infant feeding

in a Scientific, Rational and Efficient Manner.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

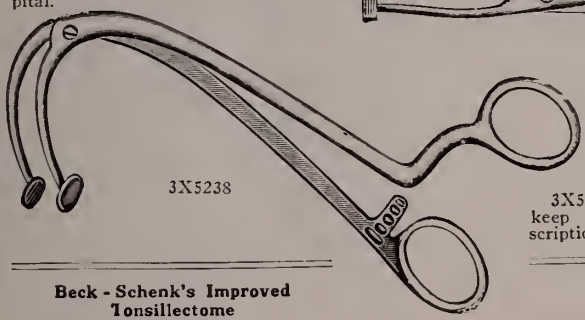
Three Late Instruments of Great Merit

PILLAR COMPRESSION FORCEPS

For controlling hemorrhage following tonsillectomy. Designed by J. Z. Bergeron, M.D., Chicago, Attending Oto-Laryngologist, St. Joseph's Hospital.

3X5237

3X5237. Pillar Compression Forcep, hand-forged. For complete description, refer to Journal A. M. A., February 12, 1916.....**$2.25**

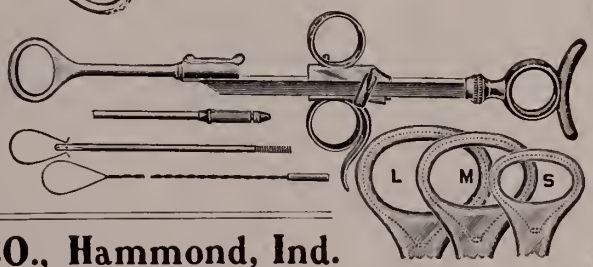


3X5238

3X5238. Gooseneck Forcep, constructed to keep handles outside the cheek. Full description on application.....**$4.00**

Beck - Schenk's Improved Tonsillectome

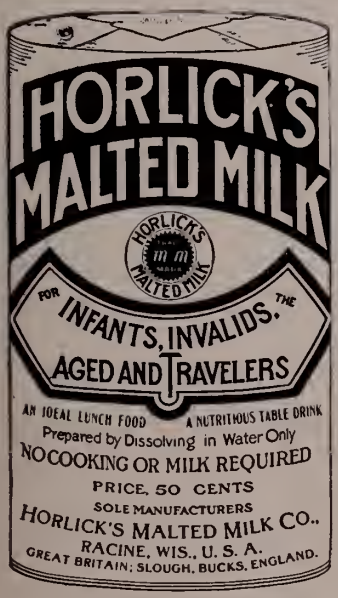
3X5239. Beck - Schenk's Improved Tonsil Snare is recognized as the most improved sold today. It is made so that the slack in the wire can be taken up instantaneously by pulling, and the pull on the trigger immediately engages the thread so the handle being turned will give ample force to enucleate any tonsil that is to be removed. The snare is furnished with one Vedder loop, one straight canula which is quickly interchangeable on account of the spring release, six wires to be used with the stylet and two of the Beck's twisted snare wires, complete only.....**$12.00**



3X5239

FRANK S. BETZ CO., Hammond, Ind.

Chicago Sales Department: 30 East Randolph Street



This is the Package

(others are imitations)

And is your guarantee and protection against the concerns, who led by the success of the Horlick's Milk Company, are manufacturing imitation malted milks, which cost the consumer as much as "Horlick's"

Always specify

Horlick's, the Original

and avoid substitutes

Heard Features

We pay 4 per cent, compound the interest quarterly, and add the amount to the principal.

Deposits made by the 10th of the month draw interest from the first.

No notice of withdrawal is necessary.

The Heard National Bank of Jacksonville

RESOURCES MORE THAN $5,000,000

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK of Jacksonville

The Storm Binder
and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones
No Rubber Elastic
Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.
1541 Diamond Street PHILADELPHIA, PA.

Does it PAY to advertise

in

The Journal

of the

Florida Medical

Association ?

IT DOES !

An Energy Producing Food

It is of vital importance in severe cases of marasmus and other malnutrition disorders in infants, that the food given be easily and completely assimilated, supplying at the same time sufficient Energy and Body Heat.

Gail Borden
EAGLE
BRAND
CONDENSED MILK
THE ORIGINAL

by clinical trial in these usually discouraging conditions will prove its value—producing prompt gain—thereby carrying your little patient over the critical period.

Samples, Analysis, Feeding Charts in any language, and our 52-page book, "Baby's Welfare" mailed upon request

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

SHERMAN'S BACTERINS

Preparations with a record for
RELIABILITY
31 different varieties

Typhoid Fever
yields more readily to
Typhoid Vaccine
than to any other remedy. When given early it often aborts the course of the disease.

Write for Literature.

G. H. SHERMAN, M. D.
DETROIT, MICHIGAN

Daily users of Vaccines use Sherman's

The SHELTER SANITORIUM
Hawks Park, Florida

Modern Medicine Up-to-date Surgery
Scientific Dietary Balmy Salt Air
FLORIDA SUNSHINE

POMPEIAN OLIVE OIL
ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when suggesting Olive Oil to patients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.

THE STANDARD IMPORTED OLIVE OIL

PETTEY & WALLACE SANITARIUM
958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

HOLMES SANATORIUM
Corner Fourth Avenue and East First Street, ROME, GEORGIA
J. B. S. HOLMES, M. D., Surgeon-in-Chief

For Surgical and Gynecological Cases

CHARTERED TRAINING SCHOOL FOR NURSES

LAURENCE EVERHART
208 Flatiron Building, ATLANTA, GEORGIA
Physicians', Surgeons' and Hospital Supplies

Write for prices on Surgical Instruments, Ligatures and Dressings, Microscopes and Accessories. Furniture for Hospital or Office, Rubber Goods, etc.
"EVERYTHING for the DOCTOR"
Reference: Lowry Nat. Bank of Atlanta

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address **OSCAR W. SCHLEETER,** *Registrar*
Lucas and Calhoun Streets Charleston, South Carolina

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

MR. DOCTOR: May we introduce the

Corona Folding Typewriter

the little machine has all the features of the big hundred dollar instruments including bi-color ribbon, back spacer, universal keyboard, etc., yet can be CARRIED ABOUT WITH YOU VERY EASILY WHEREVER YOU GO.

Office Furniture and Commercial Stationery

TWO BIG STORES DEVOTED EXCLUSIVELY TO THESE LINES

Agency Spaldings' Athletic Goods

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

Eastman KODAK Agency

FINE CORRESPONDENCE STATIONERY, BOOKS ON ALL SUBJECTS PICTURES, ART MATERIALS, HIGH-GRADE PICTURE FRAMING WEDDING AND SOCIETY ENGRAVING, GIFTS FOR ALL OCCASIONS

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY
St. Augustine, Florida

Stanolind

Trade-Mark Reg. U. S. Pat. Off.

Liquid Paraffin

(Medium Heavy)

Tasteless—Odorless—Colorless

is practically without chemical affinity, and is affected by very few chemical re-agents. This feature is of paramount importance where physicians desire to administer a mineral oil in connection with other agents.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company
(*Indiana*)
72 W. Adams St., Chicago, U. S. A.

32a

Forget the Prejudice of the Past

Stop trying to swim against the current of fact.

The cry of "*Wolf*," "*Wolf*," constantly repeated for two decades is unnecessary and foolish. If the wolf were there everyone would recognize the danger and be on guard.

The TRUST manufacturers of other brands of baking powder are responsible for this daily cry of "*Wolf*." For more than twenty years there has been an attempt made to create the impression that all other brands, except theirs, were injurious. The report of the Remsen Board shows that Calumet Baking Powder is unsurpassed for purity and healthful qualities. Therefore, the cry of "*Wolf*" no longer deceives the public.

The facts are that, for all this time, phosphate alum baking powders have been more extensively used by the people of the United States than any other type of baking powder.

Calumet Baking Powder

through its scientific choice of ingredients, accurate proportions and perfect mixture is a powder with perfectly balanced action, releasing part of its gas in the cold and more in the oven, insuring the maximum of leavening and raising qualities with uniform results.

CALUMET is "*the world's best baking powder*."

Clean, wholesome, strong and dependable.
Pure in the can and pure in the baking.

CALUMET BAKING POWDER CO., Chicago, Ill.

LABORATORY of DR. ALLEN H. BUNCE

ATLANTA, GEORGIA

ADEQUATE LABORATORY SERVICE DEMANDS PROMPTNESS AND EFFICIENCY

We are prepared and equipped to give you both the above on all your Clinical Laboratory work

Wasserman Reactions—These are performed each day, except Sundays, after having carried out careful preliminary titrations of all materials to be used in the reactions. All agents used are prepared and standardized in our own laboratory, thus assuring their freshness and reliability.

Autogenous Vaccines—All cultures for vaccines are grown both aerobically and anaerobically as a routine procedure. Vaccines are supplied only in sealed ampules, thus insuring their freedom from contamination during the course of treatment.

Tissues—Upon request we make frozen sections of tissues and telegraph a report on the same day the specimens are received. However we prefer to imbed the tissues in cellodin or paraffin which requires from three to five days, before giving a final report on them. Both reports may be had on request.

We make all other clinical laboratory examinations required by physicians and surgeons in the handling of their cases.

We furnish bleeding tubes, culture media and all other necessary containers free upon request.

Address **ALLEN H. BUNCE, M. D.**
Healey Building, ATLANTA, GEORGIA

LABORATORY OF
DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of Malarial Plasmodia
Feces for Parasites
Smears for Gonococci, Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fees for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

Three Valuable New Publications

Diseases of the Skin

By RICHARD L. SUTTON, M. D., Professor of Diseases of the Skin, University of Kansas Medical School; former Chairman of the Dermatological Section of the American Medical Association; Member of American Dermatological Association, Assistant Surgeon, U. S. N., retired. 1,000 pages, with 700 engravings and seven color plates. Price, cloth $6.50

Diseases of the Digestive Tract

By A. E. AUSTIN, A. M., M. D., former Professor of Physiological Chemistry, Tufts College, University of Virginia, and University of Texas; present Assistant Professor of Clinical Medicine, in charge of Dietetics and Gastrointestinal Diseases, Tufts College; member of American Gastroenterological Association, and American Society of Biological Chemists; Physician to Mt. Sinai Hospital and Berkeley Infirmary; Assistant to Boston Dispensary; Author of "Manual of Clinical Chemistry," etc. 600 pages, with 75 engravings and ten color plates. Price, cloth..... $5.50

Skin Cancer

By H. H. HAZEN, A. M., M. D., Professor of Dermatology, Medical Department of Howard University and Georgetown University, Washington, D. C.; sometimes Asst. in Dermatology at Johns Hopkins University; member American Dermatology Association. 250 pages, with 97 engravings and a colored frontispiece. Price, cloth $3.00

THE C. V. MOSBY COMPANY
MEDICAL PUBLISHERS
801-806 Metropolitan Building
St. Louis, U. S. A.

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

The Atlantic Beach Hotel is situated seventeen miles from Jacksonville, on brick and cement boulevard, and is one of the many hotels built by the late Henry M. Flagler, later sold to the Atlantic Beach Corporation, and is perfect in all its appointments.

Fishing, hunting, golf—18 and 9-hole courses—thirty-five miles of automobile driving on beach as hard as a macadam road and 700 feet wide; tennis, billiards, bowling and pool. Open the entire year.

For rates and booklets address

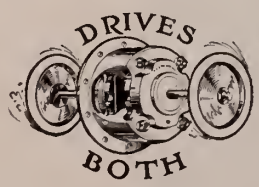
H. M. STANFORD

PROPRIETOR AND MANAGER

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets Phone Numbers 6 and 1261



Bailey Gearless Differential

"The Best Non-Skid Device on the Market"

That's what dozens of physicians—men who have to drive their cars over all roads and in all weathers—have told us. The positive drive to both rear wheels does eliminate skidding, slipping and sidesway, besides saving fuel and tires. And you can pull easily through bad spots ordinarily impassible. Why not put a Bailey Differential on your Ford, Overland or Chevrolet 490? If you are not entirely satisfied at the end of 30 days, your money will be returned. *See your supply house, or write for circular.*

Gearless Differential Co., 95 Woodward Ave., Detroit, Mich.

Which Mineral Oil Is Best for Medical and Surgical Use

?

1. That oil which is free from paraffin and all toxic irritating or otherwise undesirable elements, such as anthracene, phenanthrene, chrysene, phenols, oxidized acid and basic bodies, organic sulphur compounds and foreign inorganic matter; because an oil of such purity will pass through the gastro-intestinal tract without causing irritation or other untoward effects.

2. That oil which possesses the highest natural viscosity, with the highest specific gravity, because such an oil will pass through the intestine more slowly than a lighter and thinner oil and lubricate the walls of the gut more completely, and soften fæces more effectually, and is not likely to produce dribbling.

3. That oil which is really colorless, odorless and tasteless, because palatability favors persistence in treatment.

The oil which meets all these requirements is

Liquid Petrolatum, Squibb

Heavy (Californian)

It is a pure, colorless, odorless and tasteless **Mineral Oil,** specially refined under our control only by the *Standard Oil Company of California* which has no connection with any other Standard Oil Company. This oil has the very high specific gravity of 0.886 to 0.892 at 15°C. (or 0.881 to 0.887 at 25°C.) and has also an exceptionally high natural viscosity. It is sold only under the Squibb label and guaranty and may be had at all leading drug stores.

E. R. SQUIBB & SONS, New York

1866
1916

A Word of Appreciation

OUR house will celebrate its fiftieth birthday on the Twenty-sixth of October. This is therefore the year of our Golden Jubilee.

At such a time it is fitting that we should recognize in a public manner one of the fundamental causes of our success. This is found in the confidence bestowed upon us for fifty years by those whom we have sought to serve. Without their support we could have done nothing. Lacking their co-operation we should long since have ceased to exist.

Our appreciation of this truth is profound and heartfelt. We acknowledge our indebtedness with gratitude, and during the second half century of our existence we shall strive in every way to be worthy of the trust reposed in us by the medical and pharmaceutical professions of the world.

PARKE, DAVIS & CO.

October 1, 1916.

FORTY-FOURTH ANNUAL SESSION — ATLANTIC BEACH — MAY, 1917

N. ACADEMY OF MEDICINE LIBRARY DEC 1916

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III No. 5 — St. Augustine and Jacksonville, Fla., November, 1916 — Yearly Subscription, $1.00 Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

Pyelography as an Aid to the Diagnosis of Certain Obscure Renal and Abdominal Conditions, Harry A. Peyton, M. D., and Edward M. Jelks, M. D. 129

Roentgen Diagnosis of Renal Calculus: Report of One Hundred and Twenty-Seven Examinations, L. W. Cunningham, M. D. 135

Diagnosis and Treatment of Pellagra, W. L. Tisdale, M. D. 137

Gunshot Wound of the Abdomen, With Multiple Perforations of the Small Intestine and Mesentery, William R. Warren, M. D., and Harry C. Galey, M. D. 141

The Significance of Eye Symptoms in Relation to Systemic Diseases, Samuel F. Smith, M. D. 142

Eyestrain, Its Diagnosis and Treatment, Joseph W. Taylor, M. D. 144

Sagging Abdominal Viscera: Their Non-Surgical Treatment, George M. Niles, M. D. 146

Complete Efficient Surgery, R. R. Kime, M. D. 150

Unrecognized Nasal Diphtheria, U. S. Bird, M. D. 153

Propaganda for Reform 154

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines

PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock:

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY

PHARMACEUTICAL AND BIOLOGICAL LABORATORIES — INDIANAPOLIS, INDIANA, U. S. A.

A readily assimilated form of sugar

Mead's Dextri-Maltose

(Maltose 52%—Dextrin 41.7%—Sodium Chlorid 2%—Moisture 4.3%)

Supplements the carbohydrate deficiency of cow's milk. Used in all milk mixtures in the same proportions—by weight—as sugar of milk.

With this preparation a definite diet having a known calorific value and suited to the individual patient may be prescribed.

The infant can assimilate about twice as much Malt Sugar (Mead's Dextri-Maltose) as either milk or cane sugar.

Fully descriptive literature and samples free.

MEAD JOHNSON & CO., Evansville, Indiana

CONTENTS—Continued

EDITORIALS

Government Health Work in Alaska 155

Exposure to Cold as a Causal Factor in Diseases of the Respiratory Tract 156

Government Work in Behalf of Rural Schools 157

The Etiology of Epidemic Poliomyelitis 157

REVIEWS FROM CURRENT LITERATURE

Infantile Paralysis 158

Care of the Infant During Hot Weather 159

New and Nonofficial Remedies 159

Publishers' Notes 160

NEW ORLEANS POLYCLINIC

Graduate School of Medicine, Tulane University of Louisiana

Thirtieth Annual Session Opened Sept. 25, 1916, and Closes June 9, 1917

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, including laboratory and cadaveric work. For further information, address

CHARLES CHASSAIGNAC, M. D., Dean

Post Office Drawer 770 New Orleans Polyclinic New Orleans, La.

Tulane also offers highest class education leading to degrees in Medicine, Pharmacy, Dentistry, Hygiene and Tropical Medicine

Therapeutic Efficiency Acknowledged

The use of SUPERHEATED DRY AIR is conceded to be one of the most effective methods of treatment of acute articular, muscular and sciatic rheumatism, arthritis, synovitis, anchylosis and other joint lesions, septicemia, etc. Dry Hot Air diminishes pain and causes active elimination; produces absorption of effusion and deposits in joints; breaks up adhesions; reduces inflammatory processes; is actively sedative. The therapeutic properties of intense Dry Hot Air are: Antiphlogistic (local), Anesthetic (local) and Antiseptic. The body apparatus is indicated in the treatment of Bichloride of Mercury poisoning.

The price of the BODY DRY HOT AIR OUTFIT complete with gas or gasoline heaters, rubber air pillow, bath robes, blankets, mitts, stockings and 50 feet of Turkish toweling is $75.00; with electric heaters, $100.00. An attractive offer is made on a combination of the Body, Leg and Arm, Knee and Ear Dry Hot Air Outfits. *Write for particulars.*

The price of the $24.00 LEG AND ARM OUTFIT complete with all attachments for treating arms, legs, hips, back, abdomen, etc., with gas, gasoline or alcohol heaters is $18.00; with electric heaters, $27.50. Dr. C. E. Skinner's work on Therapeutics of Dry Hot Air given free with each outfit.

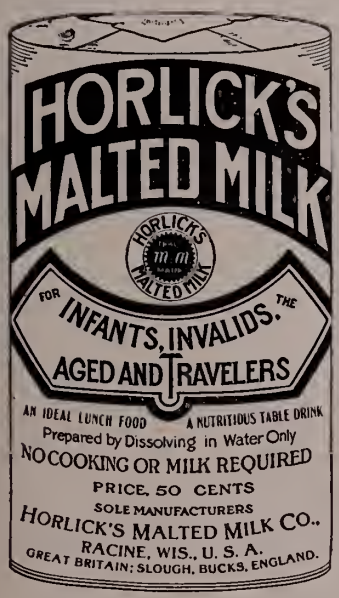
Our Manual of Dry Hot Air is Free. It explains the possibilities in owning this apparatus. A Post Card brings it.

FRANK S. BETZ COMPANY

General Offices and Factory

HAMMOND, INDIANA

Chicago Sales Department: 30 E. Randolph St.



This is the Package

(others are imitations)

And is your guarantee and protection against the concerns, who led by the success of the Horlick's Milk Company, are manufacturing imitation malted milks, which cost the consumer as much as "Horlick's"

Always specify

Horlick's, the Original

and avoid substitutes

Heard Features

We pay 4 per cent. compound the interest quarterly, and add the amount to the principal.

Deposits made by the 10th of the month draw interest from the first.

No notice of withdrawal is necessary.

The Heard National Bank of Jacksonville

RESOURCES MORE THAN $5,000,000

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

The Storm Binder
and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones
No Rubber Elastic
Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.
1541 Diamond Street PHILADELPHIA, PA.

Does it PAY to advertise

in

The Journal

of the

Florida Medical

Association ?

IT DOES !

An Energy Producing Food

It is of vital importance in severe cases of marasmus and other malnutrition disorders in infants, that the food given be easily and completely assimilated, supplying at the same time sufficient Energy and Body Heat.

Gail Borden
EAGLE
BRAND
CONDENSED
MILK
THE ORIGINAL

by clinical trial in these usually discouraging conditions will prove its value—producing prompt gain—thereby carrying your little patient over the critical period.

Samples, Analysis, Feeding Charts in any language, and our 52-page book, "Baby's Welfare" mailed upon request

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

SHERMAN'S BACTERINS

Preparations with a record for
RELIABILITY
31 different varieties

Typhoid Fever
yields more readily to
Typhoid Vaccine
than to any other remedy. When given early it often aborts the course of the disease.

Write for Literature.

G. H. SHERMAN, M. D.
DETROIT, MICHIGAN

Daily users of Vaccines use Sherman's

The SHELTER SANITORIUM

Hawks Park, Florida

Modern Medicine Up-to-date Surgery
Scientific Dietary Balmy Salt Air
FLORIDA SUNSHINE

POMPEIAN OLIVE OIL

ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when sugges ing Olive Oil to potients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.

THE STANDARD IMPORTED OLIVE OIL

PETTEY & WALLACE SANITARIUM
958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

HOLMES SANATORIUM
Corner Fourth Avenue and East First Street, ROME, GEORGIA
J. B. S. HOLMES, M. D., Surgeon-in-Chief

For Surgical and Gynecological Cases

CHARTERED TRAINING SCHOOL FOR NURSES

LAURENCE EVERHART
208 Flatiron Building, ATLANTA, GEORGIA
Physicians', Surgeons' and Hospital Supplies

Write for prices on Surgical Instruments, Ligatures and Dressings, Microscopes and Accessories. Furniture for Hospital or Office, Rubber Goods, etc.
"EVERYTHING for the DOCTOR"
Reference: Lowry Nat. Bank of Atlanta

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address OSCAR W. SCHLEETER, *Registrar*
Lucas and Calhoun Streets Charleston, South Carolina

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

MR. DOCTOR: May we introduce the

Corona Folding Typewriter

the little machine has all the features of the big hundred dollar instruments including bi-color ribbon, back spacer, universal keyboard, etc., yet can be CARRIED ABOUT WITH YOU VERY EASILY WHEREVER YOU GO.

Office Furniture and Commercial Stationery

TWO BIG STORES DEVOTED EXCLUSIVELY TO THESE LINES

Agency Spaldings' Athletic Goods

THE H.&W.B. Drew Co. STATIONERY, BOOK AND ART STORE.

Eastman KODAK Agency

FINE CORRESPONDENCE STATIONERY, BOOKS ON ALL SUBJECTS PICTURES, ART MATERIALS, HIGH-GRADE PICTURE FRAMING WEDDING AND SOCIETY ENGRAVING, GIFTS FOR ALL OCCASIONS

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY

St. Augustine, Florida

Stanolind
Trade Mark Reg. U. S. Pat. Off.
Liquid Paraffin
(Medium Heavy)
Tasteless—Odorless—Colorless

In Treating Obesity

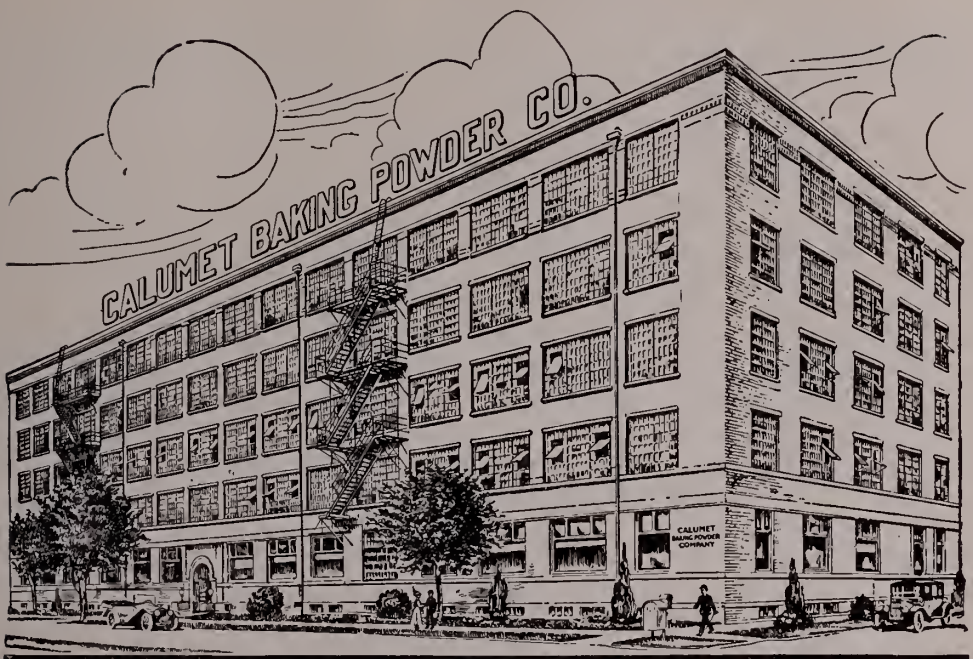
THE reduction of diet in the treatment of obesity cases often leads to constipation. This may be successfully combated by the use of Stanolind Liquid Paraffin.

Stanolind Liquid Paraffin in no way hinders the reduction treatment, since it is entirely non-absorbable, and consequently a comparatively small amount serves the purpose. The contrary is true of vegetable oils, which are in large part digested and absorbed, so that considerable quantities must be administered in order to retain sufficient to lubricate the intestines.

Stanolind Liquid Paraffin does not rob the body of fluids as does saline laxatives; it does not disturb the liver and kidneys as do many drug laxatives; it prevents abnormal drying out of the food residues.

A trial quantity with informative booklet will be sent on request. 67a

Standard Oil Co.
(Indiana)
72 W. Adams St.
Chicago, U. S. A.



The largest, finest, most sanitary Baking Powder plant in the world

Mere size is not a conclusive argument in favor of anything. But when an institution has reached a position of leadership by a steady growth over many years and includes in this success the confidence of millions of people, size means something.

Members of the medical profession are cordially invited to visit this plant and inspect every detail in the process of manufacture. They can recommend the product with assurance.

LABORATORY of DR. ALLEN H. BUNCE

ATLANTA, GEORGIA

ADEQUATE LABORATORY SERVICE DEMANDS PROMPTNESS AND EFFICIENCY

We are prepared and equipped to give you both the above on all your Clinical Laboratory work

Wasserman Reactions—These are performed each day, except Sundays, after having carried out careful preliminary titrations of all materials to be used in the reactions. All agents used are prepared and standardized in our own laboratory, thus assuring their freshness and reliability.

Autogenous Vaccines—All cultures for vaccines are grown both aerobically and anaerobically as a routine procedure. Vaccines are supplied only in sealed ampules, thus insuring their freedom from contamination during the course of treatment.

Tissues—Upon request we make frozen sections of tissues and telegraph a report on the same day the specimens are received. However we prefer to imbed the tissues in cellodin or paraffin which requires from three to five days, before giving a final report on them. Both reports may be had on request.

We make all other clinical laboratory examinations required by physicians and surgeons in the handling of their cases.

We furnish bleeding tubes, culture media and all other necessary containers free upon request.

Address **ALLEN H. BUNCE, M. D.**
Healey Building, ATLANTA, GEORGIA

LABORATORY OF
DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation
for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of
Malarial Plasmodia
Feces for Parasites
Smears for Gonococci,
Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fees for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

INFANT FEEDING

In extreme emaciation, which is a characteristic symptom of conditions commonly known as

Malnutrition-Marasmus-Atrophy

it is difficult to give fat in sufficient amounts to satisfy the nutritive needs; therefore, it is necessary to meet this emergency by substituting some other energy-giving food element. Carbohydrates in the form of maltose and dextrins in the proportion that is found in

MELLIN'S FOOD

are especially adapted to the requirements, for such carbohydrates are readily assimilated and at once furnish heat and energy so greatly needed by these poorly nourished infants.

The method of preparing the diet and suggestions for meeting individual conditions sent to physicians upon request.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

The Atlantic Beach Hotel is situated seventeen miles from Jacksonville, on brick and cement boulevard, and is one of the many hotels built by the late Henry M. Flagler, later sold to the Atlantic Beach Corporation, and is perfect in all its appointments.

Fishing, hunting, golf—18 and 9-hole courses—thirty-five miles of automobile driving on beach as hard as a macadam road and 700 feet wide; tennis, billiards, bowling and pool. Open the entire year.

For rates and booklets address

H. M. STANFORD

PROPRIETOR AND MANAGER

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets Phone Numbers 6 and 1261

Hepco TRADE MARK REGISTERED

Products for Diabetes

STARCH—Trace PROTEIN—41.6 FAT—20.8

Approved by Council on Pharmacy and Chemistry of American Medical Assn.

Send for Booklet "B"

WAUKESHA HEALTH PRODUCTS CO., Waukesha, Wis.

Which Mineral Oil Is Best for Medical and Surgical Use

?

1. That oil which is free from paraffin and all toxic irritating or otherwise undesirable elements, such as anthracene, phenanthrene, chrysene, phenols, oxidized acid and basic bodies, organic sulphur compounds and foreign inorganic matter; because an oil of such purity will pass through the gastro-intestinal tract without causing irritation or other untoward effects.

2. That oil which possesses the highest natural viscosity, with the highest specific gravity, because such an oil will pass through the intestine more slowly than a lighter and thinner oil and lubricate the walls of the gut more completely, and soften fæces more effectually, and is not likely to produce dribbling.

3. That oil which is really colorless, odorless and tasteless, because palatability favors persistence in treatment.

The oil which meets all these requirements is

Liquid Petrolatum, Squibb

Heavy (Californian)

It is a pure, colorless, odorless and tasteless **Mineral Oil,** specially refined under our control only by the *Standard Oil Company of California* which has no connection with any other Standard Oil Company. This oil has the very high specific gravity of 0.886 to 0.892 at 15°C. (or 0.881 to 0.887 at 25°C.) and has also an exceptionally high natural viscosity. It is sold only under the Squibb label and guaranty and may be had at all leading drug stores.

E. R. SQUIBB & SONS, New York

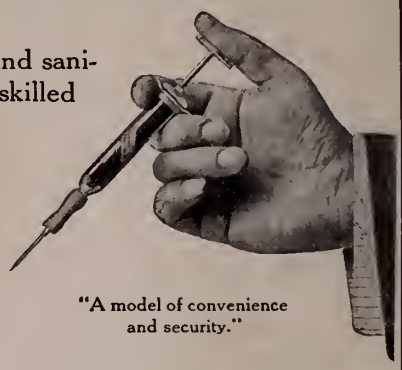
The specification "Parke, Davis & Co." on your orders for diphtheria antitoxin will insure a pure and potent product.

In the manufacture of our diphtheria antitoxin scientific methods mark every step of the process.

1. We conduct a biologic farm of more than six hundred acres—a home of natural environment for the animals used in the production of our antitoxin.

2. Our biologic stables are modern and sanitary. They are under the supervision of skilled veterinary surgeons.

3. The health of our serum-producing horses is most carefully maintained. No animal is eligible for service that has not been pronounced sound and healthy by expert veterinarians.



"A model of convenience and security."

4. Immunization and bleeding of horses are conducted in accordance with modern surgical methods.

5. The antitoxin is developed with scrupulous care, every method and appliance being in strict conformity with scientific procedure.

CONCENTRATED

Antidiphtheric Serum

(GLOBULIN)

is tested and retested, bacteriologically and physiologically. It goes to the physician with a positive guaranty of purity and activity.

Bio. 16—1000 antitoxic units. Bio. 20— 5000 antitoxic units.
Bio. 18—3000 antitoxic units. Bio. 22—10,000 antitoxic units.
Bio. 23—20,000 antitoxic units—supplied on special order.

SEE THAT YOUR DRUGGIST IS ABLE TO SUPPLY YOU.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

FORTY-FOURTH ANNUAL SESSION — ATLANTIC BEACH — MAY, 1917

THE JOURNAL
— OF THE —
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III
No. 6

St. Augustine and Jacksonville, Fla., December, 1916

Yearly Subscription, $1.00
Single Copy, 15c.

N.Y. ACADEMY OF MEDICINE LIBRARY JAN 6 1917

CONTENTS

ORIGINAL ARTICLES

Hormones and Hormone Therapy, J. E. Caldwell, M. D. 161

The Duty of the Physician Toward the Eradication of Malaria, Graham E. Henson, M. D. 165

Vitamine, Ardrey W. Downs, M. D. 169

Treatment of the Morphine Habit, W. C. Douglass, M. D. 172

Herniotomy, Sheldon Stringer, M. D. 174

Poliomyelitis or Heine-Medin's Disease, G. H. Benton, M. D. 176

Alcoholic Insanity, With Report of a Case, D. C. Main, M. D. 181

Pituitrin, G. C. Kingsbury, M. D. 182

Calomel, L. S. Oppenheimer, M. D. 183

Propaganda for Reform 185

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines
PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock :

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY
PHARMACEUTICAL AND BIOLOGICAL LABORATORIES INDIANAPOLIS, INDIANA, U. S. A.

A readily assimilated form of sugar

Mead's Dextri-Maltose

(Maltose 52%—Dextrin 41.7%—Sodium Chlorid 2%—Moisture 4.3%)

Supplements the carbohydrate deficiency of cow's milk. Used in all milk mixtures in the same proportions—by weight—as sugar of milk.

With this preparation a definite diet having a known calorific value and suited to the individual patient may be prescribed.

The infant can assimilate about twice as much Malt Sugar (Mead's Dextri-Maltose) as either milk or cane sugar.

Fully descriptive literature and samples free.

MEAD JOHNSON & CO., Evansville, Indiana

CONTENTS—Continued

EDITORIALS

The Volusia County Medical Society..... 186
The Sacrifice of the Child to Carelessness... 187
Intravenous Therapy 187

Cancer Department 188

National Board of Medical Examiners 189

The Vitamine Content 190

Combating Insects Affecting the Health of Man 191

The Southern Gastro-Enterological Association 191

New and Nonofficial Remedies 191

Publisher's Notes 192

NEW ORLEANS POLYCLINIC

Graduate School of Medicine, Tulane University of Louisiana

Thirtieth Annual Session Opened Sept. 25, 1916, and Closes June 9, 1917

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, including laboratory and cadaveric work. For further information, address

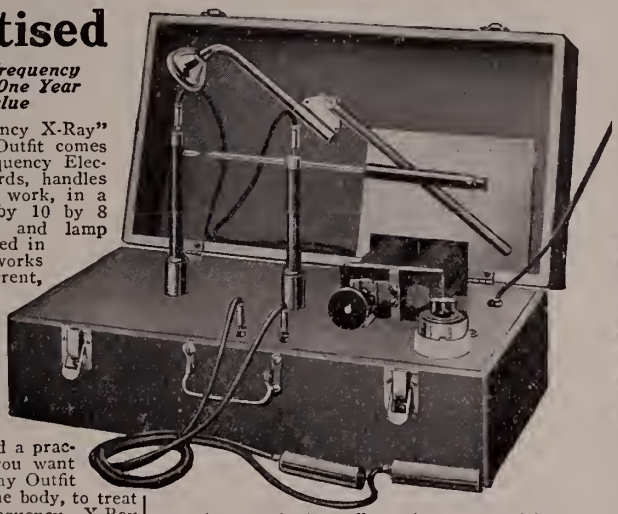
CHARLES CHASSAIGNAC, M. D., Dean

Post Office Drawer 770 New Orleans Polyclinic New Orleans, La.

Tulane also offers highest class education leading to degrees in Medicine, Pharmacy, Dentistry, Hygiene and Tropical Medicine

One of the Most Remarkable Offers Ever Advertised

Use one of "Betz-Morgan High Frequency and X-Ray Outfits" FREE for One Year to Test its Therapeutic Value



The "Betz-Morgan High Frequency X-Ray" Thermo-Faradic and Fulguration Outfit comes complete with a set of High Frequency Electrodes, one Fulguration Point, cords, handles and footplate for Thermo-Faradic work, in a beautiful oak carrying case, 20 by 10 by 8 inches with handle, cords, plug and lamp socket connection, so it may be used in the office or patient's home. It works on either alternating or direct current, and will do X-Ray treatment work, but not picture work.

HERE IS ONE OF THE MOST REMARKABLE OFFERS ever advertised by any Surgical Instrument House in America. Send us $33.50 cash for this beautiful, efficient High Frequency Coil. Use it one year, and at the end of one year's time you will have developed a practice that will convince you that you want a larger High Frequency and X-Ray Outfit to take pictures of every part of the body, to treat your patients with the High Frequency, X-Ray Thermo-Faradic, D'Arsonval or Sinusoidal currents.

RETURN TO US the Morgan High Frequency Outfit and we will allow you $33.50, just what you paid us for it, to be applied on the purchase of a Kilo-Amp Coil No. 4, or larger outfit. This offer will allow any physician who wants to take up electro therapeutic practice an opportunity to see the wonderful effect that a physician can obtain with high frequency currents. You develop your professional skill along the lines that many successful practitioners now maintain. One year of study and practice has cost you nothing, because we allow you the price of the Morgan Coil when you place your order for the larger outfit.

Chicago Salesrooms - 30 East Randolph Street

FRANK S. BETZ COMPANY, HAMMOND, IND.

This is the Package

(others are imitations)

And is your guarantee and protection against the concerns, who led by the success of the Horlick's Milk Company, are manufacturing imitation malted milks, which cost the consumer as much as "Horlick's"

Always specify

Horlick's, the Original

and avoid substitutes

Heard Features

We pay 4 per cent. compound the interest quarterly, and add the amount to the principal.

Deposits made by the 10th of the month draw interest from the first.

No notice of withdrawal is necessary.

The Heard National Bank of Jacksonville

RESOURCES MORE THAN $5,000,000

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

The Storm Binder
and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones
No Rubber Elastic
Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.
1541 Diamond Street PHILADELPHIA, PA.

Does it PAY to advertise

in

The Journal

of the

Florida Medical

Association ?

IT DOES !

Quality First

In Infant Feeding, when it becomes necessary to resort to artificial feeding, the first questions that a physician asks himself, as regards the food to be used, are:

What is it made of? How is it made? and Who makes it?

Gail Borden
EAGLE
BRAND
CONDENSED MILK
THE ORIGINAL

for sixty years has been specified almost invariably by physicians when prescribing Condensed Milk. The name "BORDEN'S" guarantees carefully selected raw material that is manufactured by the most improved and sanitary methods, insuring a finished product that is consistently uniform in composition and quality.

Samples, Feeding Charts in any language, and our 52-page book, "Baby's Welfare", mailed upon request.

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

Sherman's Bacterial Vaccines

Preparations with a record for **Reliability**

All the vaccines usually employed in the treatment of infectious diseases marketed in specially devised aseptic antiseptic bulk packages insuring absolute safety in withdrawing contents.

5 c.c. for $1.00 18 c.c. for $3.00
Ampules, 6 in box, $1.50

Daily Users of Vaccines use Sherman's

SHERMAN'S NEW BOOK

JUST OFF THE PRESS
Devoted to the Application of
Bacterial Vaccines

Explaining their therapeutic action—How, When and Where to use them.

More rapid strides have been made and more brilliant results obtained in the Field of Therapeutic Immunization than in any other branch of medicine.

This book contains over 500 pages, is cloth bound and sells for $2.50.

Write for Literature

G. H. SHERMAN, M. D.
3334 Jefferson Ave. E. Detroit, Mich.

The SHELTER SANITORIUM

Hawks Park, Florida

Modern Medicine Up-to-date Surgery
Scientific Dietary Balmy Salt Air
FLORIDA SUNSHINE

POMPEIAN OLIVE OIL

ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when suggesting Olive Oil to patients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.

THE STANDARD IMPORTED OLIVE OIL

PETTEY & WALLACE SANITARIUM
958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical. Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

HOLMES SANATORIUM
Corner Fourth Avenue and East First Street, ROME, GEORGIA
J. B. S. HOLMES, M. D., Surgeon-in-Chief

For Surgical and Gynecological Cases

CHARTERED TRAINING SCHOOL FOR NURSES

LAURENCE EVERHART
208 Flatiron Building, ATLANTA, GEORGIA
Physicians', Surgeons' and Hospital Supplies

Write for prices on Surgical Instruments, Ligatures and Dressings, Microscopes and Accessories. Furniture for Hospital or Office, Rubber Goods, etc.
"EVERYTHING for the DOCTOR"
Reference: Lowry Nat. Bank of Atlanta

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address **OSCAR W. SCHLEETER,** *Registrar*
Lucas and Calhoun Streets — Charleston, South Carolina

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

MR. DOCTOR: May we introduce the

Corona Folding Typewriter

the little machine has all the features of the big hundred dollar instruments including bi-color ribbon, back spacer, universal keyboard, etc., yet can be CARRIED ABOUT WITH YOU VERY EASILY WHEREVER YOU GO.

Office Furniture and Commercial Stationery

TWO BIG STORES DEVOTED EXCLUSIVELY TO THESE LINES

Agency Spaldings' Athletic Goods

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

Eastman KODAK Agency

FINE CORRESPONDENCE STATIONERY, BOOKS ON ALL SUBJECTS PICTURES, ART MATERIALS, HIGH-GRADE PICTURE FRAMING WEDDING AND SOCIETY ENGRAVING, GIFTS FOR ALL OCCASIONS

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY
St. Augustine, Florida

Stanolind
Trade Mark Reg. U. S. Pat. Off.
Liquid Paraffin
(Medium Heavy)
Tasteless — Odorless — Colorless

Throws No Burden on Liver or Kidneys

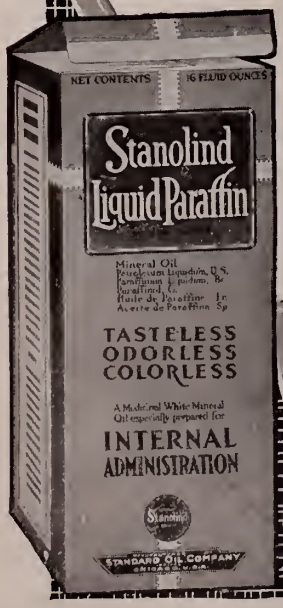
Stanolind Liquid Paraffin, being non-absorbable, throws no extra labor on liver or kidneys. These organs are often greatly embarrassed by the enormous amount of extra work given them by the free use of laxative mineral waters and other drugs.

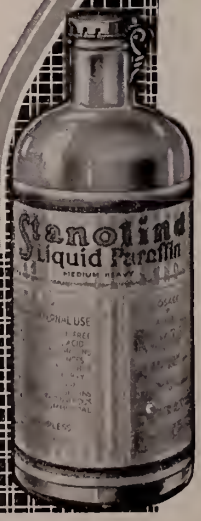
For this reason Stanolind Liquid Paraffin, being mechanical in action, is pointedly indicated as a gentle laxative in cases of Bright's Disease, hepatic cirrhosis and other conditions in which these great vital organs are crippled.

The beneficial effects of Stanolind Liquid Paraffin are not diminished by continual use, as is the case with almost every other laxative. Stanolind Liquid Paraffin should be regarded rather as a mechanical than as a strictly medicinal agency.

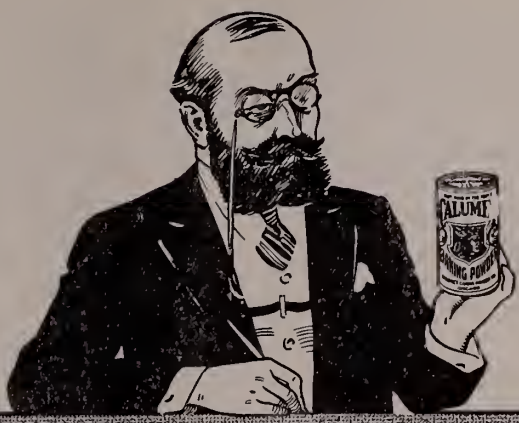
When the effective dose of Stanolind Liquid Paraffiin is found, it is unnecessary to increase it, but, on the other hand, it may, in most cases, be gradually lessened.

A trial quantity with informative booklet will be sent on request.





Standard Oil Company
(*Indiana*)
72 West Adams Street
Chicago, U. S. A.
68a



YOU must use clean, wholesome, dependable Baking Powder in the preparation of food to insure good health and mental efficiency.

Calumet Baking Powder

has stood the severest tests chemically and has given the greatest satisfaction for twenty-five years in millions of homes.

It is manufactured in the largest, finest and most sanitary Baking Powder plant in the world.

Doctors who have investigated the action, properties and residues of various leavening agents recommend Calumet.

Pure in the Can,
Pure in the Baking

Special terms for hospitals, sanitariums, institutions.

LABORATORY of DR. ALLEN H. BUNCE

ATLANTA, GEORGIA

ADEQUATE LABORATORY SERVICE DEMANDS PROMPTNESS AND EFFICIENCY

We are prepared and equipped to give you both the above on all your Clinical Laboratory work

Wasserman Reactions—These are performed each day, except Sundays, after having carried out careful preliminary titrations of all materials to be used in the reactions. All agents used are prepared and standardized in our own laboratory, thus assuring their freshness and reliability.

Autogenous Vaccines—All cultures for vaccines are grown both aerobically and anaerobically as a routine procedure. Vaccines are supplied only in sealed ampules, thus insuring their freedom from contamination during the course of treatment.

Tissues—Upon request we make frozen sections of tissues and telegraph a report on the same day the specimens are received. However we prefer to imbed the tissues in cellodin or paraffin which requires from three to five days, before giving a final report on them. Both reports may be had on request.

We make all other clinical laboratory examinations required by physicians and surgeons in the handling of their cases.

We furnish bleeding tubes, culture media and all other necessary containers free upon request.

Address **ALLEN H. BUNCE, M. D.**
Healey Building, ATLANTA, GEORGIA

LABORATORY OF
DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of Malarial Plasmodia
Feces for Parasites
Smears for Gonococci, Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fees for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

Special

INFANT FEEDING

Malnutrition-Marasmus-Atrophy

MELLIN'S FOOD
4 level tablespoonfuls
SKIMMED MILK
8 fluidounces
WATER
8 fluidounces

Analysis:

Fat	.49
Protein	2.28
Carbohydrates	6.59
Salts	.58
Water	90.06
	100.00

The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

ST. LUKE'S HOSPITAL

Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

The Atlantic Beach Hotel is situated seventeen miles from Jacksonville, on brick and cement boulevard, and is one of the many hotels built by the late Henry M. Flagler, later sold to the Atlantic Beach Corporation, and is perfect in all its appointments.

Fishing, hunting, golf—18 and 9-hole courses—thirty-five miles of automobile driving on beach as hard as a macadam road and 700 feet wide; tennis, billiards, bowling and pool. Open the entire year.

For rates and booklets address

H. M. STANFORD

PROPRIETOR AND MANAGER

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets

Phone Numbers 6 and 1261

Hepco TRADE MARK REGISTERED

Flour
for **Diabetes**

makes up readily into a variety of

Tasty, Appetizing Foods

Full directions with each package. FREE SAMPLE and analysis mailed on request to PHYSICIANS

WAUKESHA HEALTH PRODUCTS CO.

113 Grand Ave., Waukesha, Wis.

Missionary Hospital Work in India

Qualified medical man required who is in sympathy with religious work. Passage paid and small monthly allowance made. Three years agreement. Apply, sending copies of testimonials,

COMMANDER EVA BOOTH

Field Department, Salvation Army Headquarters

122 West 14th Street

New York City

Which Mineral Oil Is Best for Medical and Surgical Use

?

1. That oil which is free from paraffin and all toxic irritating or otherwise undesirable elements, such as anthracene, phenanthrene, chrysene, phenols, oxidized acid and basic bodies, organic sulphur compounds and foreign inorganic matter; because an oil of such purity will pass through the gastro-intestinal tract without causing irritation or other untoward effects.

2. That oil which possesses the highest natural viscosity, with the highest specific gravity, because such an oil will pass through the intestine more slowly than a lighter and thinner oil and lubricate the walls of the gut more completely, and soften fæces more effectually, and is not likely to produce dribbling.

3. That oil which is really colorless, odorless and tasteless, because palatability favors persistence in treatment.

The oil which meets all these requirements is

Liquid Petrolatum, Squibb

Heavy (Californian)

It is a pure, colorless, odorless and tasteless **Mineral Oil,** specially refined under our control only by the *Standard Oil Company of California* which has no connection with any other Standard Oil Company. This oil has the very high specific gravity of 0.886 to 0.892 at 15°C. (or 0.881 to 0.887 at 25°C.) and has also an exceptionally high natural viscosity. It is sold only under the Squibb label and guaranty and may be had at all leading drug stores.

E. R. SQUIBB & SONS, New York

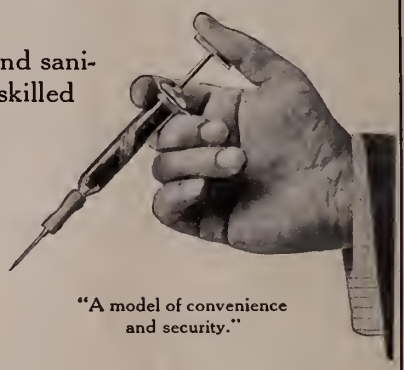
The specification "Parke, Davis & Co." on your orders for diphtheria antitoxin will insure a pure and potent product.

In the manufacture of our diphtheria antitoxin scientific methods mark every step of the process.

1. We conduct a biologic farm of more than six hundred acres—a home of natural environment for the animals used in the production of our antitoxin.

2. Our biologic stables are modern and sanitary. They are under the supervision of skilled veterinary surgeons.

3. The health of our serum-producing horses is most carefully maintained. No animal is eligible for service that has not been pronounced sound and healthy by expert veterinarians.



"A model of convenience and security."

4. Immunization and bleeding of horses are conducted in accordance with modern surgical methods.

5. The antitoxin is developed with scrupulous care, every method and appliance being in strict conformity with scientific procedure.

CONCENTRATED

Antidiphtheric Serum

(GLOBULIN)

is tested and retested, bacteriologically and physiologically. It goes to the physician with a positive guaranty of purity and activity.

Bio. 16—1000 antitoxic units. Bio. 20— 5000 antitoxic units.
Bio. 18—3000 antitoxic units. Bio. 22—10,000 antitoxic units.
Bio. 23—20,000 antitoxic units—supplied on special order.

SEE THAT YOUR DRUGGIST IS ABLE TO SUPPLY YOU.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

FORTY-FOURTH ANNUAL SESSION — ATLANTIC BEACH — MAY, 1917

ACADEMY FEB 1 1917 LIBRARY

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III No. 7 — St. Augustine and Jacksonville, Fla., January, 1917 — Yearly Subscription, $1.00 Single Copy, 15c.

CONTENTS

An Act—Relating to the Right to Practice Medicine and Surgery in the State of Florida 193

ORIGINAL ARTICLES

The Practical Policy, Oscar Dowling, M. D... 197
The Practicing Physician's Responsibility in Public Health Work, C. P. Knight, M. D... 200
Medical Aspects of the Navy, A. J. Toulon, M. D..... 202
Simulated Blindness and Its Detection, M. A. Lischkoff, M. D..... 204
The Treatment of Syphilis of the Central Nervous System, H. Mason Smith, M. D... 206
Urinalysis, F. A. Brink, M. D..... 211
Glandular Tuberculosis of Childhood, D. W. McMillan, M. D..... 212
Some of the Recent Ideas on Infantile Paralysis, J. H. Fellows, M. D 214
Propaganda for Reform 216

EDITORIALS

The Proposed Medical Practice Act..... 219
The Right and Wrong of Making Experiments on Human Beings..... 220

REVIEWS FROM CURRENT LITERATURE

Ruptured Uterus After Cesarean Section.... 221
Ruptured Uterus After Cesarean Section.... 222
Cauterization of Wounds Infected With Rabies Virus 222
Bacteriological Findings in Cerebro-Spinal Fluid in Poliomyelitis 222

New and Non-Official Remedies..... 222

Publisher's Notes 224

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines
PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock:

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY
PHARMACEUTICAL AND BIOLOGICAL LABORATORIES — INDIANAPOLIS, INDIANA, U. S. A.

OF all sugars used for infant feeding in point of easy and rapid assimilation Maltose (malt sugar) has the advantage.

MEAD'S DEXTRI-MALTOSE

supplies this sugar in ideal combination. Serviceable in general feeding cases, but particularly so in nutritional disorders in which milk sugar is the disturbing element.

An energy-giving food, and a satisfactory carbohydrate to increase body-weight.

Samples, feeding tables and descriptive literature on request

MEAD JOHNSON & CO., Mfrs., Evansville, Ind.

PETTEY & WALLACE SANITARIUM
958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

$25.00 SPECIAL COURSES at $25.00

The Chicago Policlinic and The Post-Graduate Medical School of Chicago

The Twenty-Sixth Annual Special Course Will Commence

at The Chicago Policlinic Monday, April 2, 1917 and at The Post-Graduate Medical School of Chicago Monday, May 7, 1917

and will continue three weeks at each institution These courses, which have given such satisfaction for so many years, have for their purpose the presentation in a condensed form of the advances which have been made during the year previous in the following branches: Surgery, Orthopedics, Gynecology, Obstetrics, Genito-Urinary, Stomach and Rectal Diseases and in border-line medical subjects. Fee for each of the above courses, $25.00.

Special Operative Work on the Cadaver and Dogs, and General and Special Laboratory Courses.

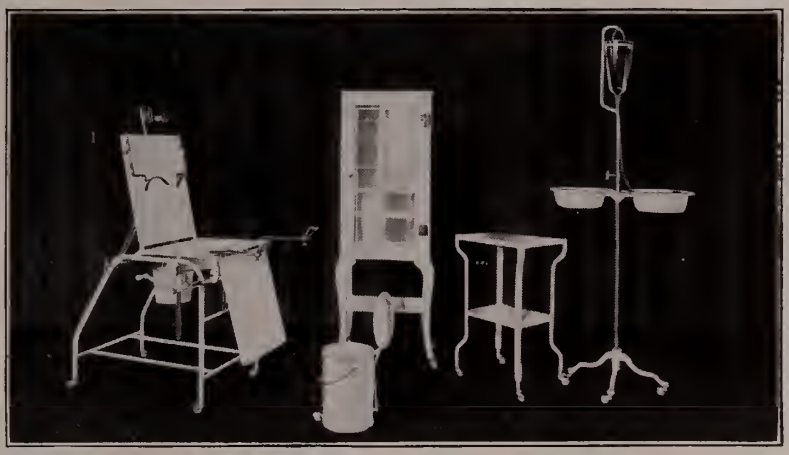
All regular clinics continue as usual. *For further information address:*

THE CHICAGO POLICLINIC
M. L. HARRIS, Sec'y
219 W. Chicago Ave., Chicago

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO
EMIL RIES, Sec'y
2400 S. Dearborn Street, Chicago, Illinois

ISAAC'S
White Enameled Steel Office Outfit $75.00

Probably never before has an Isaac's Operating Table been included in an office equipment priced so low. The entire outfit has been selected with a view of giving the most practical service combined with the greatest economy. All the furniture is manufactured of special drawn steel, acetylene and electrically welded, finished with four coats of hand rubbed, oven baked white enamel, and built to last a lifetime.



The entire Isaac's Outfit as shown, only $75.00.

THIS EXTRAORDINARY OFFER CONSISTS OF:

One Isaac's Operating Chair Table, complete with stirrups and shoulder braces, and removable foot piece.

One Opportunity Steel Instrument Cabinet, with five plate glass shelves, plate glass beveled door with nickel plated hinges and locks. The cabinet stands 67 inches high with separate shelf below.

One A. M. A. Adjustable Irrigating Stand, with glass percolator, rubber tubing, etc., and two enameled Solution Bowls.

One Steel Instrument Table 16x20 inches, electrically welded and White Enameled.

One Waste Bucket with automatic self-closing cover.

$75.00 Now Invested Means Prosperity Next Year

FRANK S. BETZ CO., HAMMOND, IND., Chicago Sales Dept., 30 E. Randolph St.

This is the Package

(others are imitations)

And is your guarantee and protection against the concerns, who led by the success of the Horlick's Milk Company, are manufacturing imitation malted milks, which cost the consumer as much as "Horlick's"

Always specify

Horlick's, the Original

and avoid substitutes

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address **OSCAR W. SCHLEETER,** *Registrar*

Lucas and Calhoun Streets Charleston, South Carolina

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

The Storm Binder
and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones
No Rubber Elastic
Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.
1541 Diamond Street PHILADELPHIA, PA.

Does it PAY to advertise

in

The Journal

of the

Florida Medical

Association ?

IT DOES !

To Foster Bran Habits

You will find Pettijohn's, we think, the best way known to foster the bran habit.

The Breakfast Food is a wheat-flake dainty of which folks never tire.

The Flour is more likable than Graham, and is used in many ways.

Both hide 25 per cent of bran—a bran which isn't gritty. And, being in flake form, it is doubly efficient.

Thousands of physicians now advise these as the ideal form of bran diet.

Pettijohn's

Rolled Wheat With Bran Flakes

Soft, flavory wheat rolled into luscious flakes, hiding 25 per cent of unground bran. A famous breakfast dainty.

PETTIJOHN'S FLOUR is 75 per cent fine patent flour mixed with 25 per cent tender bran flakes. To be used like Graham flour in any recipe; but better, because the bran is unground.

The Quaker Oats Company
Chicago 1458

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

Sherman's Bacterial Vaccines

Preparations with a record for **Reliability**

All the vaccines usually employed in the treatment of infectious diseases marketed in specially devised aseptic antiseptic bulk packages insuring absolute safety in withdrawing contents.

5 c.c. for $1.00 18 c.c. for $3.00
Ampules, 6 in box, $1.50

Daily Users of Vaccines use Sherman's

SHERMAN'S NEW BOOK

JUST OFF THE PRESS
Devoted to the Application of
Bacterial Vaccines

Explaining their therapeutic action—How, When and Where to use them.

More rapid strides have been made and more brilliant results obtained in the Field of Therapeutic Immunization than in any other branch of medicine.

This book contains over 500 pages, is cloth bound and sells for $2.50.

Write for Literature

G. H. SHERMAN, M. D.
3334 Jefferson Ave. E. Detroit, Mich.

The SHELTER SANITORIUM

Hawks Park, Florida

Modern Medicine Up-to-date Surgery
Scientific Dietary Balmy Salt Air
FLORIDA SUNSHINE

POMPEIAN OLIVE OIL

ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when sugges ing Olive Oil to patients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.

THE STANDARD IMPORTED OLIVE OIL

The Real Worth of an Infant Food

is not alone in its assimilability. The food must be clean, wholesome, uniform in quality and composition, and safe and dependable at all times.

Gail Borden
EAGLE
BRAND
CONDENSED
MILK
THE ORIGINAL

has been used by physicians for nearly sixty years in stubborn feeding cases, where it has been deemed necessary to replace breast feedings. The confidence expressed in this well-known food by the medical profession is reflected in the consistently reliable quality of the product.

Samples, Feeding Charts in any language, and our 52-page book, "Baby's Welfare", mailed upon request.

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Extra-Grade Oat Food

Quaker Oats dominates—all the world over—because it is flaked from queen grains only.

We discard all the puny grains, starved and insipid. The result is, we get but ten pounds from a bushel.

But another result is a luxury dish — flavory and fragrant — in which millions of children delight.

Quaker Oats

Large, Luscious Flakes

We cannot better the oat, because Nature makes it perfect. But we can, by selection, get the cream of the oats, and make the dish doubly attractive.

That is what we do.

The Quaker Oats Company
Chicago

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

MR. DOCTOR: May we introduce the

Corona Folding Typewriter

the little machine has all the features of the big hundred dollar instruments including bi-color ribbon, back spacer, universal keyboard, etc., yet can be CARRIED ABOUT WITH YOU VERY EASILY WHEREVER YOU GO.

Office Furniture and Commercial Stationery

TWO BIG STORES DEVOTED EXCLUSIVELY TO THESE LINES

Agency Spaldings' Athletic Goods

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

Eastman KODAK Agency

FINE CORRESPONDENCE STATIONERY, BOOKS ON ALL SUBJECTS PICTURES, ART MATERIALS, HIGH-GRADE PICTURE FRAMING WEDDING AND SOCIETY ENGRAVING, GIFTS FOR ALL OCCASIONS

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY
St. Augustine, Florida

Stanolind

Trade Mark Reg. U. S. Pat. Off.

Liquid Paraffin

(Medium Heavy)

Tasteless — Odorless — Colorless

Valuable in Diabetes and Chronic Gastritis

IN cases of diabetes, the systematic use of Stanolind Liquid Paraffin, acting as a gentle laxative, is an effective means of combating the intestinal putrefaction and auto-intoxication which are constant accompaniments of diabetes in its grave forms, and may be one of the most potent factors in its causation.

Stanolind Liquid Paraffin has no effect upon gastric secretion; does not inhibit the production of hydrochloric acid by the stomach. Hence it is indicated where a condition of constipation co-exists with chronic gastritis.

Stanolind Liquid Paraffin is not acted on by any of the digestive juices and is not absorbed. It acts by adding to the bulk of food in the large intestine; by lubricating the food canal, and by hindering the excessive absorption of water.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company
(Indiana)
72 W. Adams Street, Chicago, U. S. A.

69a

The Best By Every Test

Calumet Baking Powder Excels

CHEMICALLY, it is correct. Enough of the acid phosphate in the powder has been replaced with Sodium Alum (which is not to be confounded with drug-store alum) to insure its keeping qualities and give it proper speed of action in the mix.

PHYSICALLY, it is pure. None but the highest quality of ingredients, carefully tested beforehand, are used in its manufacture, which is carried on in the largest and most sanitary baking-powder plant in the world. The powder is not touched by human hands at any point in the process.

PHYSIOLOGICALLY, it is wholesome. There are no tartrate residues.

DOMESTICALLY, it is efficient and dependable. It keeps well. It gives off its gas neither too quickly or too slowly, but penetrates the entire mix. It produces a dainty and healthful baking.

For all these reasons, CALUMET is the favorite baking powder in millions of American homes, and is widely used in hotels and public institutions. It commands the recommendation of thoughtful physicians.

Special terms for hospitals, sanitariums, etc.

LABORATORY of DR. ALLEN H. BUNCE

ATLANTA, GEORGIA

ADEQUATE LABORATORY SERVICE DEMANDS PROMPTNESS AND EFFICIENCY

We are prepared and equipped to give you both the above on all your Clinical Laboratory work

Wasserman Reactions—These are performed each day, except Sundays, after having carried out careful preliminary titrations of all materials to be used in the reactions. All agents used are prepared and standardized in our own laboratory, thus assuring their freshness and reliability.

Autogenous Vaccines—All cultures for vaccines are grown both aerobically and anaerobically as a routine procedure. Vaccines are supplied only in sealed ampules, thus insuring their freedom from contamination during the course of treatment.

Tissues—Upon request we make frozen sections of tissues and telegraph a report on the same day the specimens are received. However we prefer to imbed the tissues in cellodin or paraffin which requires from three to five days, before giving a final report on them. Both reports may be had on request.

We make all other clinical laboratory examinations required by physicians and surgeons in the handling of their cases.

We furnish bleeding tubes, culture media and all other necessary containers free upon request.

Address **ALLEN H. BUNCE, M. D.**
Healey Building, ATLANTA, GEORGIA

LABORATORY OF
DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of Malarial Plasmodia
Feces for Parasites
Smears for Gonococci, Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fees for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

MELLIN'S FOOD

In every step in the manufacture of Mellin's Food there is constantly in view the ultimate object of making a product of definite composition

to Accomplish a Definite Purpose.

This purpose is to furnish certain food elements which, when added to cow's milk, make it a suitable food for an infant. The food elements in Mellin's Food—carbohydrates (maltose and dextrins), proteins and salts —when dissolved in water and added to cow's milk so change the balance of nutrition in cow's milk that the resulting modification presents fat, proteins, carbohydrates and salts in the proportion needed

for the Development of Infantile Life.

The success of Mellin's Food, therefore, depends not upon any one of the food elements of which it is made up, but upon the definite composition of "Mellin's Food as a whole" as a means to enable the physician to modify cow's milk to meet the requirements of infant feeding

in a Scientific, Rational and Efficient Manner.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

The Atlantic Beach Hotel is situated seventeen miles from Jacksonville, on brick and cement boulevard, and is one of the many hotels built by the late Henry M. Flagler, later sold to the Atlantic Beach Corporation, and is perfect in all its appointments.

Fishing, hunting, golf—18 and 9-hole courses—thirty-five miles of automobile driving on beach as hard as a macadam road and 700 feet wide; tennis, billiards, bowling and pool. Open the entire year.

For rates and booklets address

H. M. STANFORD

PROPRIETOR AND MANAGER

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets

Phone Numbers 6 and 1261

Hepco TRADE MARK REGISTERED

Flour *for* Diabetes

makes up readily into a variety of

Tasty, Appetizing Foods

Full directions with each package. FREE SAMPLE and analysis mailed on request to PHYSICIANS

WAUKESHA HEALTH PRODUCTS CO.

113 Grand Ave., Waukesha, Wis.

Missionary Hospital Work in India

Qualified medical man required who is in sympathy with religious work. Passage paid and small monthly allowance made. Three years agreement. Apply, sending copies of testimonials,

COMMANDER EVA BOOTH

Field Department, Salvation Army Headquarters

122 West 14th Street

New York City

Which Mineral Oil Is Best for Medical and Surgical Use

?

1. That oil which is free from paraffin and all toxic irritating or otherwise undesirable elements, such as anthracene, phenanthrene, chrysene, phenols, oxidized acid and basic bodies, organic sulphur compounds and foreign inorganic matter; because an oil of such purity will pass through the gastro-intestinal tract without causing irritation or other untoward effects.

2. That oil which possesses the highest natural viscosity, with the highest specific gravity, because such an oil will pass through the intestine more slowly than a lighter and thinner oil and lubricate the walls of the gut more completely, and soften fæces more effectually, and is not likely to produce dribbling.

3. That oil which is really colorless, odorless and tasteless, because palatability favors persistence in treatment.

The oil which meets all these requirements is

Liquid Petrolatum, Squibb

Heavy (Californian)

It is a pure, colorless, odorless and tasteless **Mineral Oil,** specially refined under our control only by the *Standard Oil Company of California* which has no connection with any other Standard Oil Company. This oil has the very high specific gravity of 0.886 to 0.892 at 15°C. (or 0.881 to 0.887 at 25°C.) and has also an exceptionally high natural viscosity. It is sold only under the Squibb label and guaranty and may be had at all leading drug stores.

E. R. SQUIBB & SONS, New York

The Handy Ampoule

Our Sterilized Solutions for Hypodermatic Injection Have Solved a Difficult Problem.

FORMERLY when a physician wished to resort to hypodermatic medication he had to use tinctures, fluid extracts or solutions of his own making. Often his solutions were found to contain precipitates. Frequently sterile water was not to be had when wanted. Result: delay and disappointment—sometimes even risk of life.

Parke, Davis & Co.'s Sterilized Solutions in Ampoules have cleared away the difficulties.

ADVANTAGES.

1. Solutions in ampoules are always ready for use.

2. They are sterile.

3. The dose is accurate, a definite amount of medicament being contained in each milliliter (Cc.) of solution.

4. The drug is treated with the most suitable solvent—distilled water, physiologic salt solution, or oil, as the case may be.

5. The container is hermetically sealed, preventing bacterial contamination.

6. An impervious cardboard carton protects the solution against the actinic effect of light.

✦ ✦ ✦

We supply upward of sixty ready-to-use sterilized solutions. They are described in our catalogue, under "Ampoules," pages 194-200. Consult this valuable list.

OUR "AMPOULES" BROCHURE

gives therapeutic suggestions, descriptions of packages, prices, etc. Every physician should have this book. We send it, postpaid, on receipt of request.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

50 Years of Pharmaceutical Progress

FORTY-FOURTH ANNUAL SESSION—ATLANTIC BEACH—MAY 18, 19, 1917

N.Y. ACADEMY OF MEDICINE LIBRARY MAR 10 1917

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III No. 8 | St. Augustine and Jacksonville, Fla., February, 1917 | Yearly Subscription, $1.00 Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

Valvular Lesions in the Aged, Graham E. Henson, M. D. 225
Senile Bronchitis, H. L. Merryday, M. D. 229
The Effects of Senility on the Kidney, L. B. Bouchelle, M. D. 229
The Management of Senile Debility, John Reeve, M. D. 230
Urinary Troubles in the Aged, Henry K. DuBois, M. D. 231
Diet in Senility, W. C. Chowning, M. D. 232
The Degenerative Vascular Changes of the Aged, J. E. McGunagle, M. D. 233
A Definite Discussion of the Indefinite Term "Indigestion," George M. Niles, M. D. 234
Colle's Fracture, J. S. McEwan, M. D. 237
Diabetes Mellitus, D. W. McMillan, M. D. 238
Propaganda for Reform 243

EDITORIALS

The Atlantic Beach Meeting 246
The Duties of the County Secretaries 246
What Your Stationery Speaks For 247
Medical Preparedness 247
Compulsory Health Insurance 248
Science in the Movies 248
Self-Rising Flour 249
McIntire Prize 249
Cancer Department 251
New and Nonofficial Remedies 253

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines
PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock :

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY
PHARMACEUTICAL AND BIOLOGICAL LABORATORIES INDIANAPOLIS, INDIANA, U. S. A.

OF all sugars used for infant feeding in point of easy and rapid assimilation Maltose (malt sugar) has the advantage.

MEAD'S DEXTRI-MALTOSE

supplies this sugar in ideal combination. Serviceable in general feeding cases, but particularly so in nutritional disorders in which milk sugar is the disturbing element.

An energy-giving food, and a satisfactory carbohydrate to increase body-weight.

Samples, feeding tables and descriptive literature on request

MEAD JOHNSON & CO., Mfrs., Evansville, Ind.

PETTEY & WALLACE SANITARIUM
958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

$25.00 SPECIAL COURSES at $25.00

The Chicago Policlinic and The Post-Graduate Medical School of Chicago

The Twenty-Sixth Annual Special Course Will Commence

at The Chicago Policlinic Monday, April 2, 1917 and at The Post-Graduate Medical School of Chicago Monday, May 7, 1917

and will continue three weeks at each institution These courses, which have given such satisfaction for so many years, have for their purpose the presentation in a condensed form of the advances which have been made during the year previous in the following branches: Surgery, Orthopedics, Gynecology, Obstetrics, Genito-Urinary, Stomach and Rectal Diseases and in border-line medical subjects. Fee for each of the above courses, $25.00.

Special Operative Work on the Cadaver and Dogs, and General and Special Laboratory Courses.

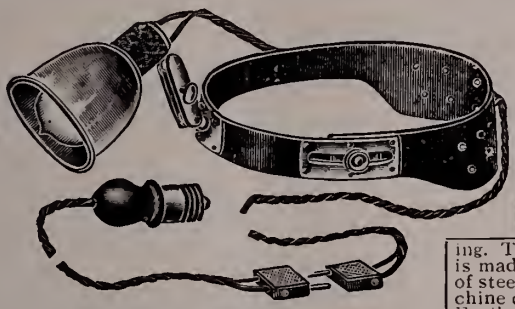
All regular clinics continue as usual. *For further information address:*

THE CHICAGO POLICLINIC
M. L. HARRIS, Sec'y
Dept. J. J., 219 W. Chicago Ave., Chicago

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO
EMIL RIES, Sec'y
Dept. J. J., 2400 S. Dearborn Street, Chicago, Illinois

Specially Priced for 30 Days

Two Attractive Values in Articles of Every-Day Use and Which Every Physician Should Own



Hodson's Improved Head Lamp $3.75

A splendid and practical outfit. With adjustable Pyralin head band, 8 candle power lamp with parabolic aluminum reflector, mounted on the head band with ball and socket joint. Comes complete with cord and special quick cut-out.

3R3390 — Hodson's Improved Head Lamp for any 110-volt current. Special 30-day price.....**$3.75**

Hand-Power Centrifuge, $4.75

We have run a large quantity of these centrifuges thru our factory in order to give our customers the benefit of a special saving. The centrifuge is made throughout of steel with brass machine cut pinion gears. Easily operated and high geared to give the necessary speed with least effort. Has both plain and graduated glass tubes inside of aluminum shields. Comes complete with clamp for fastening to table or shelf.

2R301 — Hand Power Centrifuge, special for 30 days **$4.75**

FRANK S. BETZ CO., Hammond, Ind.

Chicago Sales Department: 30 East Randolph St.

Horlick's the Original Malted Milk

RELIABLE - - DEPENDABLE

A Meritorious Product with a Record of over third of a century of Uniform Quality

See that your patients get Horlick's and avoid substitution

Horlick's Malted Milk Company

Racine, Wisconsin

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address **OSCAR W. SCHLEETER,** *Registrar*
Lucas and Calhoun Streets Charleston, South Carolina

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

The Storm Binder
and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones

No Rubber Elastic

Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.
1541 Diamond Street PHILADELPHIA, PA.

Seahurst

A private home for the treatment of mental and nervous diseases, selected habit cases, and conditions of general invalidism, has been established in Tampa, Florida, by Dr. Geo. B. Coon and Dr. W. C. Ashworth, both members of the American Medical Association, and with over twenty years' experience in this special field of work. The home is charmingly located on the bay shore and offers the advantages of a private home without suggestion of hospital or sanatorium features.

The profession is cordially invited to visit us at any time, and to write to us for any further information as to terms or for references.

An illustrated pamphlet will be sent upon request.

Address

GEO. B. COON, M. D.

Box 1125, Tampa, Florida

Prof. Anderson's Steam-Exploded Grains

In this famous process we take whole grains of wheat or rice and seal them in huge guns.

For an hour we apply 550 degrees of heat. That turns the moisture in each food cell into steam.

The guns are shot, and the steam explodes. Inside each kernel there occur over 100 million explosions.

The grains are puffed to bubbles, eight times normal size. They are four times as porous as bread. Digestion is made easy and complete. And the 16 elements in a whole grain are perfectly fitted to feed.

They are served like other cereals. Also in bowls of milk. Also salted or buttered, as between-meal tidbits. No other method supplies whole-grain foods in this ideal form.

The Quaker Oats Company

Sole Makers—Chicago (1490)

Puffed Wheat **Puffed Rice**

and Corn Puffs

Each 15c Except in Far West

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

Sherman's Bacterial Vaccines

Preparations with a record for **Reliability**

All the vaccines usually employed in the treatment of infectious diseases marketed in specially devised aseptic antiseptic bulk packages insuring absolute safety in withdrawing contents.

5 c.c. for $1.00 18 c.c. for $3.00
Ampules, 6 in box, $1.50

Daily Users of Vaccines use Sherman's

SHERMAN'S NEW BOOK

JUST OFF THE PRESS
Devoted to the Application of
Bacterial Vaccines

Explaining their therapeutic action—How, When and Where to use them.

More rapid strides have been made and more brilliant results obtained in the Field of Therapeutic Immunization than in any other branch of medicine.

This book contains over 500 pages, is cloth bound and sells for $2.50.

Write for Literature

G. H. SHERMAN, M. D.
3334 Jefferson Ave. E. Detroit, Mich.

Hepco TRADE MARK REGISTERED

Flour *for* Diabetes

makes up readily into a variety of

Tasty, Appetizing Foods

Full directions with each package. FREE SAMPLE and analysis mailed on request to PHYSICIANS

WAUKESHA HEALTH PRODUCTS CO.
113 Grand Ave., Waukesha, Wis.

POMPEIAN OLIVE OIL

ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when suggesting Olive Oil to patients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.

THE STANDARD IMPORTED OLIVE OIL

Quality and Reliability

are important factors which physicians and dieticians consider, when selecting a safe, wholesome and satisfying milk for infant feeding.

Gail Borden
EAGLE
BRAND
CONDENSED
MILK
THE ORIGINAL

which received the Grand Prize (Highest Award) at the recent San Francisco and San Diego Expositions, stands pre-eminently at the head of its class of reliable and dependable foods.

Samples, Analysis, Feeding Charts in any language, and our 52-page book "Baby's Welfare," mailed on request.

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Bran Diet

Varied and Likable Extra Efficient

Pettijohn's Breakfast Food—soft rolled wheat—is to all folks a luxury dish.

Pettijohn's Flour is far better than Graham, as it can be used in as many ways.

Both now contain 25 per cent of bran flakes. So they supply bran in plenty. They supply it in flake form. And they hide it in numerous tempting foods of which people never tire.

You will find that they meet your ideal of a bran food for continuous effect.

Pettijohn's

Rolled Wheat with Bran Flakes

Soft, flavory wheat rolled into luscious flakes, hiding 25 per cent of unground bran. A famous breakfast dainty.

Pettijohn's Flour is 75 per cent fine patent flour mixed with 25 per cent tender bran flakes. To be used like Graham flour in any recipe; but better, because the bran is unground.

The Quaker Oats Company
Chicago (1511)

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

A Shop where Quality and Service is preeminent—DREW'S.

We feature complete stocks in every department.

Office Furniture, Commercial Stationery, Fine Correspondence Papers, Books on every subject, Artists' Materials, Pictures, Kodaks, Athletic Goods, Toys, etc.

Wedding and Society Engravers

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

45-49 W. Bay St. 32 and 46 W. Forsyth St.

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY
St. Augustine, Florida

During Pregnancy

STANOLIND Liquid Paraffin is an admirable laxative for use during pregnancy. It produces no irritation of the bowel, has not the slightest disturbing influence upon the uterus, and no effect upon the fetus.

The regular use of Stanolind Liquid Paraffin in the later months of pregnancy is an effective means of avoiding some of the serious dangers attending the parturient state because of sluggish bowel action.

Stanolind Liquid Paraffin counteracts to a definite extent an unfortunate dietetic effect on the intestine in this manner; the concentrated diet of our modern civilized life contains so little indigestible material that the residue is apt to form a pasty mass which tends to adhere to the intestinal wall. Stanolind Liquid Paraffin modifies this food residue, and thus tends to render the mass less adhesive.

Stanolind Liquid Paraffin is mechanical in action, lubricating in effect. Its *suavity* is one of the reasons why increase of dose is never needful after the proper amount is once ascertained.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company

72 West Adams Street (*Indiana*) Chicago, U. S. A. 73a

An Ounce or a Pound?

THE world has long since concluded that "an *ounce* of prevention is worth a *pound* of cure." The most successful doctors—those who render a real service to humanity—are those who *conserve* health as well as *restore* it.

Pure, wholesome food is a well-known preventive of ill health; and for twenty-five years

Calumet Baking Powder

has excelled as a preparer of good food. It makes bread and biscuits light and digestible.

Doctors who have investigated the action, properties and residues of various leavening agents, recommend "CALUMET". It is used in their own homes. Such ingredients as are used in the manufacture of "CALUMET" have been approved by the Remsen Board of consulting scientific experts, appointed by the United States Government and composed of men whose ability is acknowledged and whose conclusions are accepted.

A copy of the U. S. Bulletin No. 103, containing the findings of the Remsen Board, will be sent by us to any doctor upon request.

Calumet Baking Powder Co., Chicago, Illinois

"Prevalence of Syphilis"

"The Wassermann reaction is steadily coming into more common use, and its value as a routine procedure is being more fully appreciated. A number of reports of such routine examination have been made, notably one by Dr. Albert A. Homer (Boston Medical and Surgical Journal, Feb. 10, 1916) on 500 cases at the Massachusetts General Hospital, in which he found that 17.4 per cent of the patients gave a positive reaction."

* * *

"Since February, 1916, blood has been drawn from every one admitted (Boston Marine Hospital) and the serum obtained sent to the Hygienic Laboratory at Washington where the test was made. Up to October, 1916, 312 cases were thus tested, and 77, or 24.7 per cent were positive. Readmissions and faulty specimens have been excluded from this series and doubtful reactions have been considered negative."

* * *

"From the above data it would seem fair to conclude: That the prevalence of syphilis is much greater than is shown by ordinary hospital and medical records, and that by the routine use of the Wassermann reaction a large percentage of cases which certainly could not be diagnosed without it, will be recognized and properly treated."—U. S. Pub. Health Service, Reprint No. 378, Nov. 24, 1916.

Information for obtaining specimens and necessary containers furnished gratis.

Laboratory of Dr. Allen H. Bunce

823-6 Healey Bldg., ATLANTA, GA.

LABORATORY OF

DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation
for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of
Malarial Plasmodia
Feces for Parasites
Smears for Gonococci,
Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fecs for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

Mellin's Food is of much assistance in adjusting the diet to correct constipation of infants.

Details of the method of procedure to meet such conditions will be sent to physicians, upon request.

Mellin's Food Company, Boston, Mass.

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

The Atlantic Beach Hotel is situated seventeen miles from Jacksonville, on brick and cement boulevard, and is one of the many hotels built by the late Henry M. Flagler, later sold to the Atlantic Beach Corporation, and is perfect in all its appointments.

Fishing, hunting, golf—18 and 9-hole courses—thirty-five miles of automobile driving on beach as hard as a macadam road and 700 feet wide; tennis, billiards, bowling and pool. Open the entire year.

For rates and booklets address

H. M. STANFORD

PROPRIETOR AND MANAGER

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets

Phone Numbers 6 and 1261

LAURENCE EVERHART

208 Flatiron Building, ATLANTA, GEORGIA

Physicians', Surgeons' and Hospital Supplies

Write for prices on Surgical Instruments, Ligatures and Dressings, Microscopes and Accessories. Furniture for Hospital or Office, Rubber Goods, etc.

"EVERYTHING for the DOCTOR"

Reference: Lowry Nat. Bank of Atlanta

Liquid Petrolatum, Squibb
(Heavy Californian)

Accepted by the Council on Pharmacy and Chemistry, American Medical Association

A pure, colorless, odorless and tasteless mineral oil of the naphthene series of hydrocarbons.

SPECIALLY REFINED FOR INTERNAL USE

Liquid Petrolatum, Squibb, Heavy (Californian), is recommended to the medical profession for preventing absorption of bacteria from the intestine and for restoring normal bowel functioning.

It is the most viscous mineral oil on the market; which viscosity is true, i. e., natural, and is effective at the temperature of the inside of the intestine.

It may be administered in any quantities necessary. Its use does not form a habit.

As it is not absorbed it is indicated to regulate the bowels during pregnancy and lactation.

Sold only in one pint original bottles under the Squibb label and guarantee.

Dr. Ferguson's concise handbook on Intestinal Stasis on Constipation will be sent free to any physician on request.

MEDICAL DEPARTMENT

E. R. SQUIBB & SONS, New York

Manufactaring Chemists to the Medical Profession Since 1858

The Handy Ampoule

Our Sterilized Solutions for Hypodermatic Injection Have Solved a Difficult Problem.

FORMERLY when a physician wished to resort to hypodermatic medication he had to use tinctures, fluid extracts or solutions of his own making. Often his solutions were found to contain precipitates. Frequently sterile water was not to be had when wanted. Result: delay and disappointment—sometimes even risk of life.

Parke, Davis & Co.'s Sterilized Solutions in Ampoules have cleared away the difficulties.

ADVANTAGES.

1. Solutions in ampoules are always ready for use.

2. They are sterile.

3. The dose is accurate, a definite amount of medicament being contained in each milliliter (Cc.) of solution.

4. The drug is treated with the most suitable solvent—distilled water, physiologic salt solution, or oil, as the case may be.

5. The container is hermetically sealed, preventing bacterial contamination.

6. An impervious cardboard carton protects the solution against the actinic effect of light.

✦ ✦ ✦

We supply upward of sixty ready-to-use sterilized solutions. They are described in our catalogue, under "Ampoules," pages 194-200. Consult this valuable list.

OUR "AMPOULES" BROCHURE

gives therapeutic suggestions, descriptions of packages, prices, etc. Every physician should have this book. We send it, postpaid, on receipt of request.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

50 Years of Pharmaceutical Progress

FORTY-FOURTH ANNUAL SESSION—ATLANTIC BEACH—MAY 18, 19, 1917

N.Y.A. APR 4 1917

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III No. 9 | St. Augustine and Jacksonville, Fla., March, 1917 | Yearly Subscription, $1.00 Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

Osteochondritis Deformans Juvenilis, Edward Jelks, M. D. 257

The Treatment of Fractures of the Humerus and Femur, With Special Reference to the Operative Method With the Use of an Autoplastic Graft, H. C. Dozier, M. D... 259

Intestinal Obstruction; Its Diagnosis and Treatment, With Report of Cases, John A. Simmons, M. D. 264

Intestinal Obstruction From Gallstone—Report of a Case, R. R. Sullivan, M. D. 269

An Address, John S. Helms, A.B., M.D., F.A.C.S. 270

Senility, W. C. Chowning, M. D. 273

Factors Influencing the Death Rate in Surgical and Medical Appendicitis, R. R. Kime, M.D., F.A.C.S. 274

EDITORIALS

The Removal of the Eclectic Board 280

The Journal of Urology 280

The Atlantic Beach Meeting 280

Annual Congress 281

Current Views Regarding the Tonsils and Their Surgical Removal 283

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines

PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock :

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY

PHARMACEUTICAL AND BIOLOGICAL LABORATORIES INDIANAPOLIS, INDIANA, U. S. A.

Another Shortage of Salvarsan 284

National Board of Medical Examiners..... 285

Campaign Against Unclean Dairy Utensils.. 285

A Few Pointers 286

REVIEWS FROM CURRENT LITERATURE

Experimental Studies with Muscicides and Other Fly-destroying Agencies 286

Experimental Convict Road 287

Commission on Milk Standards..... 287

New and Nonofficial Remedies..... 287

Publisher's Notes 288

PETTEY & WALLACE SANITARIUM
958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

$25.00 SPECIAL COURSES at $25.00

The Chicago Policlinic and The Post-Graduate Medical School of Chicago

The Twenty-Sixth Annual Special Course Will Commence

at The Chicago Policlinic and at The Post-Graduate Medical School of Chicago
Monday, April 2, 1917 Monday, May 7, 1917

and will continue three weeks at each institution These courses, which have given such satisfaction for so many years, have for their purpose the presentation in a condensed form of the advances which have been made during the year previous in the following branches: Surgery, Orthopedics, Gynecology, Obstetrics, Genito-Urinary, Stomach and Rectal Diseases and in border-line medical subjects. Fee for each of the above courses, $25.00.

Special Operative Work on the Cadaver and Dogs, and General and Special Laboratory Courses.

All regular clinics continue as usual. *For further information address:*

THE CHICAGO POLICLINIC
M. L. HARRIS, Sec'y
Dept. J. J., 219 W. Chicago Ave., Chicago

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO
EMIL RIES, Sec'y
Dept. J. J., 2400 S. Dearborn Street, Chicago, Illinois

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets Phone Numbers 6 and 1261

No Money Down—

Ten Days' FREE Trial

Then $2.50 a month for ten months and the genuine 1917 model DR. ROGERS' TYCOS SPHYGMOMANOMETER, Price $25.00, is yours.

Guaranteed Without Condition and Without Risk. The instrument is the latest model made by the Taylor Instrument Company; it carries a double guarantee both from the manufacturer and from ourselves, and if it is not satisfactory at the end of TEN days return it. Furthermore, we guarantee the outfit to be simple in operation and free from all mechanical defects.

The Complete Outfit Shown is included at this price and consists of a genuine 1917 Tycos Self-Verifying Sphygmomanometer, complete with dial and felt case, bulb, adjustable sleeve, pressure bag, all in a genuine black Morocco leather case, together with a complete and comprehensive Blood Pressure Manual full of valuable information.

FRANK S. BETZ CO., Hammond, Ind. Chicago Sales Dept. 30 E. Randolph St.

Horlick's the Original Malted Milk

RELIABLE - - DEPENDABLE

A Meritorious Product with a Record of over third of a century of Uniform Quality

See that your patients get Horlick's and avoid substitution

Horlick's Malted Milk Company

Racine, Wisconsin

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address **OSCAR W. SCHLEETER,** *Registrar*
Lucas and Calhoun Streets Charleston, South Carolina

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

Cholera Infantum
versus
Arsenical Poisoning from Insecticides
—*Which?*

The similarity in symptoms makes it important to differentiate carefully in making your diagnosis

Arsenical fly poisons are all the more a menace in that the poisonous solutions are sweetened, making the dangerous potion enticing to children.

In the past physicians have denounced the poisonous phosphorous match, and this public danger has been eliminated. The baneful arsenical fly draughts merit like condemnation.

Following is an extract from "The Transmission of Disease by Flies," Supplement No. 29 to the Public Health Reports, April, 1916:

"Of other fly poisons mention should be made, merely for the purpose of condemnation, of those composed of arsenic. Fatal cases of the poisoning of children through the use of such compounds are far too frequent, and owing to the resemblance of arsenical poisoning to summer diarrhea and cholera infantum, it is believed that the cases reported do not, by any means, comprise the total. Arsenical fly-destroying devices must therefore be rated as extremely dangerous, and should never be used, even if other measures are not at hand."

The Housefly is a Typhoid Carrier

and filth distributor—always "fresh from the foulest filth of every pestilential kind." There is a reliable means of destroying this pest —use

TANGLEFOOT

Absolutely Non-Poisonous
Perfectly Clean—Easily Applied
Always Effective

For over 30 years TANGLEFOOT has merited its reputation as the sure, clean and safe fly destroyer. Our sales exceed 300 million sheets yearly. Made only by

The O. & W. Thum Co.
GRAND RAPIDS, MICH.

To Foster Bran Habits

You will find Pettijohn's, we think, the best way known to foster the bran habit.

The Breakfast Food is a wheat-flake dainty of which folks never tire.

The Flour is more likable than Graham, and is used in many ways.

Both hide 25 per cent of bran—a bran which isn't gritty. And, being in flake form, it is doubly efficient.

Thousands of physicians now advise these as the ideal form of bran diet.

Pettijohn's

Rolled Wheat with Bran Flakes

Soft, flavory wheat rolled into luscious flakes, hiding 25 per cent of unground bran. A famous breakfast dainty.

Pettijohn's Flour is 75 per cent fine patent flour mixed with 25 per cent tender bran flakes. To be used like Graham flour in any recipe; but better, because the bran is unground.

The Quaker Oats Company
Chicago (1512)

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

Sherman's Bacterial Vaccines

Preparations with a record for **Reliability**

All the vaccines usually employed in the treatment of infectious diseases marketed in specially devised aseptic antiseptic bulk packages insuring absolute safety in withdrawing contents.

5 c.c. for $1.00 18 c.c. for $3.00
Ampules, 6 in box, $1.50

Daily Users of Vaccines use Sherman's

SHERMAN'S NEW BOOK

JUST OFF THE PRESS
Devoted to the Application of
Bacterial Vaccines

Explaining their therapeutic action—How, When and Where to use them.

More rapid strides have been made and more brilliant results obtained in the Field of Therapeutic Immunization than in any other branch of medicine.

This book contains over 500 pages, is cloth bound and sells for $2.50.

Write for Literature

G. H. SHERMAN, M. D.
3334 Jefferson Ave. E. Detroit, Mich.

Hepco TRADE MARK REGISTERED

Flour *for* Diabetes

makes up readily into a variety of

Tasty, Appetizing Foods

Full directions with each package. FREE SAMPLE and analysis mailed on request to PHYSICIANS

WAUKESHA HEALTH PRODUCTS CO.
113 Grand Ave., Waukesha, Wis.

POMPEIAN OLIVE OIL

ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when suggesting Olive Oil to patients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.

THE STANDARD IMPORTED OLIVE OIL

Quality and Reliability

are important factors which physicians and dieticians consider, when selecting a safe, wholesome and satisfying milk for infant feeding.

Gail Borden
EAGLE
BRAND
CONDENSED
MILK
THE ORIGINAL

which received the Grand Prize (Highest Award) at the recent San Francisco and San Diego Expositions, stands pre-eminently at the head of its class of reliable and dependable foods.

Samples, Analysis, Feeding Charts in any language, and our 52-page book "Baby's Welfare," mailed on request.

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Oat Food

Made Doubly-Delicious

All the world over Quaker Oats is the favorite brand of oat food.

Even in the British Isles, from which we used to import Scotch and Irish oats.

That is because of a flavor which has never been matched, and which gives a new delight to the oat dish.

Quaker Oats

Queen Oats Flaked

The luscious flavor is due to selection. All the puny, starved grains are discarded. We get but ten pounds of plump grains from a bushel, fit for Quaker Oats.

So in this brand one gets just the cream of the oats. Only large, white flakes, with their exquisite flavor and aroma.

10c and 25c Per Package
Except in Far West and South

The Quaker Oats Company
Chicago (C483)

COUNTY SOCIETY OFFICERS

ALACHUA COUNTY.

G. W. Floyd, Hawthorne, *President.*
E. T. Kegel, Gainesville, *Secretary-Treasurer.*

BAY COUNTY.

J. Ambus Wells, St. Andrews Quarantine, *President.*
W. D. Cauthon, Panama City, *Secretary-Treasurer.*

BRADFORD COUNTY.

J. P. Tomlinson, Starke, *President.*
A. H. Freeman, Starke, *Secretary-Treasurer.*

BREVARD COUNTY.

L. H. Martin, Melbourne, *President.*
J. C. Spell, Titusville, *Secretary-Treasurer.*

CALHOUN COUNTY.

G. T. Crozier, Blountstown, *President.*
S. S. Bridges, Blountstown, *Secretary.*
E. B. Reeder, Clarksville, *Treasurer.*

COLUMBIA COUNTY.

L. M. Anderson, Lake City, *President.*
J. P. Long, Lake City, *Secretary.*

DADE COUNTY.

B. F. Hodson, Miami, *President.*
G. H. Benton, Miami, *Secretary.*

DeSOTO COUNTY.

D. L. McSwain, Arcadia, *President.*
M. L. Crum, Bowling Green, *Secretary-Treasurer.*

DUVAL COUNTY.

W. W. McDonnell, Jacksonville, *President.*
Shaler Richardson, Jacksonville, *Secretary-Treasurer.*

ESCAMBIA COUNTY.

L. deM. Blocker, Pensacola, *President.*
F. A. Brink, Pensacola, *Secretary.*
H. M. Ginsberg, Pensacola, *Treasurer.*

HILLSBOROUGH COUNTY.

Rolling Jefferson, Tampa, *President.*
E. H. McRae, Tampa, *Secretary.*
J. C. Dickinson, Tampa, *Treasurer.*

JACKSON COUNTY.

D. C. Campbell, Marianna, *President.*
G. S. Hodges, Marianna, *Secretary-Treasurer.*

JEFFERSON COUNTY.

J. R. McEachern, Monticello, *President.*
J. B. Brinson, Monticello, *Secretary-Treasurer.*

LAKE COUNTY.

C. M. Roberts, Umatilla, *President.*
W. P. McKee, Eustis, *Secretary-Treasurer.*

LEON COUNTY.

Ralph N. Greene, Chattahoochee, *President.*
F. Clifton Moor, Tallahassee, *Secretary-Treasurer.*

MARION COUNTY.

D. M. Smith, Ocala, *President.*
J. Harry Walters, Ocala, *Secretary-Treasurer.*

MANATEE COUNTY.

H. Gates, Bradentown, *President.*
S. G. Hollingsworth, Bradentown, *Secretary-Treasurer.*

MONROE COUNTY.

J. Y. Porter, Jr., Key West, *President.*

ORANGE COUNTY.

S. Puleston, Sanford, *President.*
C. A. Boone, Orlando, *Secretary-Treasurer.*

OSCEOLA COUNTY.

M. J. Hicks, Kissimmee, *President.*
H. S. Geiger, Kissimmee, *Secretary-Treasurer.*

PASCO COUNTY.

R. D. Sistrunk, Dade City, *President.*
H. W. Wade, Dade City, *Secretary-Treasurer.*

PINELLAS COUNTY.

A. P. Albaugh, Tarpon Springs, *President.*
W. M. Davis, St. Petersburg, *Secretary-Treasurer.*

POLK COUNTY.

J. M. Oglesby, Bartow, *President.*
Herman Watson, Lakeland, *Secretary-Treasurer.*

PUTNAM COUNTY.

G. E. Welch, Palatka, *President.*
J. C. Chandler, Palatka, *Secretary-Treasurer.*

SANTA ROSA COUNTY.

A. C. Carter, Milton, *President.*
Z. V. Johnson, Milton, *Secretary-Treasurer.*

SUWANNEE COUNTY.

J. E. Pennington, Welborn, *President.*
T. S. Anderson, Live Oak, *Secretary-Treasurer.*

ST. LUCIE COUNTY.

E. VanLandinham, Ft. Pierce, *President.*
B. L. Whitten, Ft. Pierce, *Secretary-Treasurer.*

SUMTER COUNTY.

R. C. Hubbard, Bushnell, *President.*
H. Watson, Webster, *Secretary-Treasurer.*

VOLUSIA COUNTY.

F. J. Walter, Daytona, *President.*
L. C. Ingram, DeLand, *Secretary-Treasurer.*

WALTON COUNTY.

E. P. Webb, Laurelhill, *President.*
D. H. Simmons, DeFuniak Springs, *Secretary-Treasurer.*

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

Announcement

The Forty-fourth Annual Meeting

of the

Florida Medical Association

will be in session at

Atlantic Beach, May 18th and May 19th

In addition to an unusually interesting program made up by the Profession of the State, Representatives of

THE UNITED STATES ARMY,

THE UNITED STATES NAVY,

and

THE UNITED STATES PUBLIC HEALTH SERVICE

will be present and will discuss matters of vital interest to the medical profession of the State.

You owe it to yourself and to your profession to be present at what will undoubtedly be the most memorable meeting of the medical profession of your State.

Make your plans to be present, now. To insure your personal comfort make your hotel reservations at once.

A feature will be a week-end at this famous seashore resort. Bring your family with you. The children will be benefited by the trip and will be as safe on this famous beach as in the nursery.

Not only make your plans to attend but come prepared to take an active part in the discussions of the many subjects that will be open for discussion.

Boost for the meeting, boost for your profession, boost for yourself.

A Shop where Quality and Service is preeminent—DREW'S.

We feature complete stocks in every department.

Office Furniture, Commercial Stationery, Fine Correspondence Papers, Books on every subject, Artists' Materials, Pictures, Kodaks, Athletic Goods, Toys, etc.

Wedding and Society Engravers

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

45-49 W. Bay St. 32 and 46 W. Forsyth St.

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY
St. Augustine, Florida

THE CHESTON KING SANITARIUM

A Private Sanitarium for Nervous and Mental Diseases, Alcoholic and Narcotic Inebriety

Careful attention to proper classification of cases. Modern conveniences and accommodations. Facilities excellent. Electricity, Hydrotherapy, Massage and Occupation. Site elevated, retired and beautiful. Twenty-five acres in lawn and garden. Situated between the Capital City Country Club and Greater Oglethorpe University. Patients admitted to our sanitarium can have all the rest and exercise indicated and yet will not come in contact with any objectionable case. A physician in constant attendance. Mail address

THE CHESTON KING SANITARIUM, Peachtree Road, Atlanta, Georgia

THE first consideration in the selection of your x-ray equipment is the machine itself—its dependability. The service you receive goes with that dependability.

The name Victor stands squarely behind the service you expect—the service you can depend upon.

Give us an idea as to the scope of your work (without any obligation on your part) and let us suggest the particular type of apparatus best suited for your needs.

There's a Victor direct representative within a few hours ride from your office—if you need him.

Descriptive literature sent upon request.

VICTOR ELECTRIC CORPORATION

Chicago New York Cambridge

Address all inquiries to 236 So. Robey Street, Chicago

Stanolind

Trade Mark Reg. U. S. Pat. Off.

Liquid Paraffin

(Medium Heavy)

Tasteless — Odorless — Colorless

Before Operation

Stanolind Liquid Paraffin is an ideal laxative for surgical practice.

When used in the proper dose, it thoroughly empties the alimentary canal, without producing irritation or other undesirable effects.

It is particularly valuable in intestinal surgery, because it leaves the stomach and bowels in a quiet state, and because its use is not followed by an increased tendency to constipation.

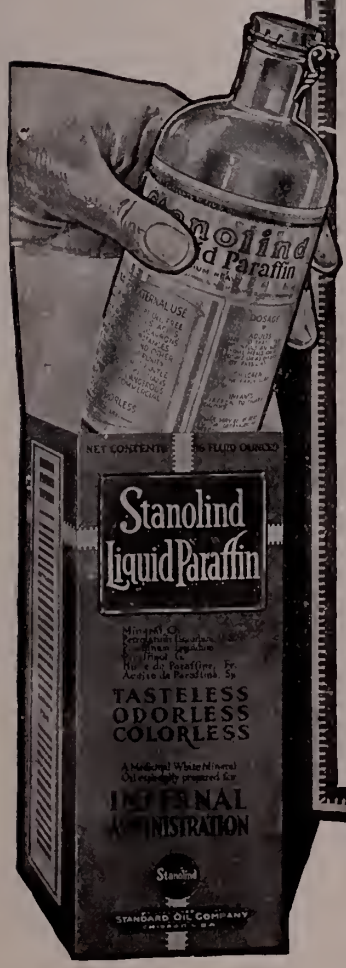
After an abdominal operation, one or two ounces of Stanolind Liquid Paraffin may be given through a tube while the patient is still under the anaesthetic, or as an emulsion, an hour or two later.

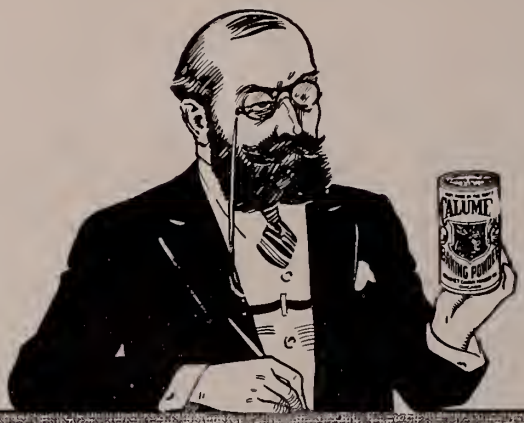
Stanolind Liquid Paraffin is essentially *bland* in its action, causing a minimum amount of irritation while in stomach or intestine. It may also in most cases be gradually reduced without apparently affecting the frequency of the evacuations.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company
(*Indiana*)
72 West Adams Street
Chicago, U. S. A.

74a





YOU must use clean, wholesome, dependable Baking Powder in the preparation of food to insure good health and mental efficiency.

Calumet Baking Powder

has stood the severest tests chemically and has given the greatest satisfaction for twenty-five years in millions of homes.

It is manufactured in the largest, finest and most sanitary Baking Powder plant in the world.

Doctors who have investigated the action, properties and residues of various leavening agents recommend Calumet.

Pure in the Can,
Pure in the Baking

Special terms for hospitals, sanitariums, institutions.

"Prevalence of Syphilis"

"The Wassermann reaction is steadily coming into more common use, and its value as a routine procedure is being more fully appreciated. A number of reports of such routine examination have been made, notably one by Dr. Albert A. Homer (Boston Medical and Surgical Journal, Feb. 10, 1916) on 500 cases at the Massachusetts General Hospital, in which he found that 17.4 per cent of the patients gave a positive reaction."

* * *

"Since February, 1916, blood has been drawn from every one admitted (Boston Marine Hospital) and the serum obtained sent to the Hygienic Laboratory at Washington where the test was made. Up to October, 1916, 312 cases were thus tested, and 77, or 24.7 per cent were positive. Readmissions and faulty specimens have been excluded from this series and doubtful reactions have been considered negative."

* * *

"From the above data it would seem fair to conclude: That the prevalence of syphilis is much greater than is shown by ordinary hospital and medical records, and that by the routine use of the Wassermann reaction a large percentage of cases which certainly could not be diagnosed without it, will be recognized and properly treated."—U. S. Pub. Health Service, Reprint No. 378, Nov. 24, 1916.

Information for obtaining specimens and necessary containers furnished gratis.

Laboratory of Dr. Allen H. Bunce

823-6 Healey Bldg., ATLANTA, GA.

LABORATORY OF

DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation
for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of
Malarial Plasmodia
Feces for Parasites
Smears for Gonococci,
Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fees for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

Constipation

A failure to digest the curd of milk, an excess in amount of milk fat in the food mixture or an intolerance for fat in any but very small amounts, are frequent causes of constipation in infants.

These errors of diet, which impair the nutritive value of the infant's nourishment, should be corrected by adjusting the modification to meet the baby's digestive capacity.

Mellin's Food

may be used successfully in overcoming difficulties of this nature without lessening the amount of available nutrition. Details of the method of procedure will be sent to physicians, upon request.

Mellin's Food Company, Boston, Mass.

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

The Atlantic Beach Hotel is situated seventeen miles from Jacksonville, on brick and cement boulevard, and is one of the many hotels built by the late Henry M. Flagler, later sold to the Atlantic Beach Corporation, and is perfect in all its appointments.

Fishing, hunting, golf—18 and 9-hole courses—thirty-five miles of automobile driving on beach as hard as a macadam road and 700 feet wide; tennis, billiards, bowling and pool. Open the entire year.

For rates and booklets address

H. M. STANFORD

PROPRIETOR AND MANAGER

OF all sugars used for infant feeding in point of easy and rapid assimilation Maltose (malt sugar) has the advantage.

MEAD'S DEXTRI-MALTOSE

supplies this sugar in ideal combination. Serviceable in general feeding cases, but particularly so in nutritional disorders in which milk sugar is the disturbing element.

An energy-giving food, and a satisfactory carbohydrate to increase body-weight.

Samples, feeding tables and descriptive literature on request

MEAD JOHNSON & CO., Mfrs., Evansville, Ind.

ST. LUKE'S HOSPITAL
JACKSONVILLE
FLORIDA

The new buildings constitute a General Hospital of an excellence unsurpassed in this country, which is open for the reception of private patients, and all physicians members of The Florida Medical Association.

The Isolation building is fully equipped for the care of contagious diseases.

Rates from

$15.00 to $47.00

per week

The Nurses' Training School has been greatly enlarged and improved in every way, and is Registered with the Regents of the State of New York. There are usually one or two vacancies for Probationers desiring to enter the training school and also for Graduates desiring Post-Graduate work.

All information may be obtained by writing to the Superintendent of St. Luke's Hospital, Jacksonville, Florida.

The Storm Binder
and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones

No Rubber Elastic

Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.

1541 Diamond Street PHILADELPHIA, PA.

Seahurst

A private home for the treatment of mental and nervous diseases, selected habit cases, and conditions of general invalidism, has been established in Tampa, Florida, by Dr. Geo. B. Coon and Dr. W. C. Ashworth, both members of the American Medical Association, and with over twenty years' experience in this special field of work. The home is charmingly located on the bay shore and offers the advantages of a private home without suggestion of hospital or sanatorium features.

The profession is cordially invited to visit us at any time, and to write to us for any further information as to terms or for references.

An illustrated pamphlet will be sent upon request.

Address

GEO. B. COON, M. D.

Box 1125, Tampa, Florida

Liquid Petrolatum, Squibb
(Heavy Californian)

Accepted by the Council on Pharmacy and Chemistry, American Medical Association

A pure, colorless, odorless and tasteless mineral oil of the naphthene series of hydrocarbons.

SPECIALLY REFINED FOR INTERNAL USE

Liquid Petrolatum, Squibb, Heavy (Californian), is recommended to the medical profession for preventing absorption of bacteria from the intestine and for restoring normal bowel functioning.

It is the most viscous mineral oil on the market; which viscosity is true, i. e., natural, and is effective at the temperature of the inside of the intestine.

It may be administered in any quantities necessary. Its use does not form a habit.

As it is not absorbed it is indicated to regulate the bowels during pregnancy and lactation.

Sold only in one pint original bottles under the Squibb label and guarantee.

Dr. Ferguson's concise handbook on Intestinal Stasis on Constipation will be sent free to any physician on request.

MEDICAL DEPARTMENT

E. R. SQUIBB & SONS, New York

Manufactaring Chemists to the Medical Profession Since 1858

Why Germicidal Soap is superior to many other powerful antiseptics.

The chief fault with many otherwise satisfactory germicides is that they coagulate albumin. This is true of the commonly used acid salts of mercury like bichloride.

Upon contact with albuminous substance—pus, blood, mucus, etc.—these germicides form a more or less dense coagulum.

This coagulum acts as a *protective* to such germ life as may be locked up in the interior of the cellular tissue or in the cell protoplasm.

By coagulation of the exterior zone these germicides *shut themselves out,* so to speak, from the living interior. Thus spores frequently develop in wounds and other lesions even after copious irrigation by solutions of bichloride of mercury and similar substances.

A SEARCHING, PENETRATING ANTISEPTIC.

Germicidal Soap, P. D. & Co., is free from the objection cited above: **it does not coagulate albumin.** It is a *neutral* soap and liberates in watery solution a small quantity of *free alkali,* which prevents the coagulation of albumin and permits the mercuric iodide, the antiseptic constituent, thoroughly to penetrate cell-wall tissue.

As a germ-destroyer **Germicidal Soap, P. D. & Co.,** is *five times as powerful as carbolic acid.*

Germicidal Soap, P. D. & Co., is a valuable disinfectant in surgery, in gynecology, in obstetrics, and in ordinary routine practice. It cleanses and penetrates at the same time. It is always ready for use. No weighing or measuring is necessary. There is no waste. Hands, instruments and field of operation are quickly disinfected with *one* material.

Germicidal Soap, P. D. & Co., does not attack nickeled or steel instruments, as does bichloride of mercury. It does not cause numbing of the hands, as does carbolic acid.

Germicidal Soap, 2% (contains 2% of mercuric iodide): large cakes, one in a carton.
Germicidal Soap, Mild, 1%: large cakes, one in a carton; small cakes, five in a carton.
For other forms see our catalogue.

SPECIFY "P. D. & Co." WHEN ORDERING.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

50 Years of Pharmaceutical Progress

FORTY-FOURTH ANNUAL SESSION—ATLANTIC BEACH—MAY 18, 19, 1917

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III
No. 10

St. Augustine and Jacksonville, Fla., April, 1917

Yearly Subscription, $1.00
Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

Focal Infection, H. M. Ginsberg, M. D., Pensacola 289
A Surgical Conception of Pyorrhœa, Clarence Hutchinson, M. D., Pensacola 291
The Management of Confusional States with Special Reference to Pathogenesis, Tom Williams, M. D., Washington, D. C. 292
Cardiac Pyloric Anastomis, Marvin Smith, M. D., Jacksonville 298
Obstetrics Outside the Maternity Hospital, P. L. Goss, M. D., Mulberry 300
Oral Affections and Their Effect Upon the General Health, Wilmer S. Hall, D. D. S., Pensacola 304
Review of 148 Obstetrical Cases, J. S. Turberville, M. D., Century 307

Propaganda for Reform 308

EDITORIALS

The Nation's Call 310

Information Relating to Appointments in the Medical Officers Reserve Corps 311
The Atlantic Beach Meeting 311
An Important Epoch in Tubercular Campaign 311
The Fate of Trypsin in the Stomach 313
Better Public Health Administration for Small Communities 313
Arsenobenzol and Diarsenol 315
An Apology 316
Vaccination Against Anthrax 316
National Conference of Charities and Correction 318
Preliminary Program 318
New and Nonofficial Remedies 319

Publisher's Notes 320

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines
PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock :

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY
PHARMACEUTICAL AND BIOLOGICAL LABORATORIES INDIANAPOLIS, INDIANA, U. S. A.

DAKIN'S NEW ANTISEPTIC CHLORAZENE

This new chlorine-carrying synthetic antiseptic, para-toluene-sodium-sulphochloramide, was developed in France and England by Dr. H. D. Dakin of the Rockefeller Institute and has been tested clinically, with fine results, in the war hospitals of France and England. Many encouraging reports from prominent surgeons in this country are being received daily.

YOU SHOULD USE IT BECAUSE

CHLORAZENE is a definite chemical compound.
CHLORAZENE is less irritant than the hypochlorites.
CHLORAZENE is a most powerful antiseptic.
CHLORAZENE is virtually non-caustic and non-toxic.
CHLORAZENE is stable.
CHLORAZENE does not coagulate the albumens of the tissues.
CHLORAZENE is supplied in convenient form: tablets and powder.

CHLORAZENE is being used in treating infected wounds received in modern warfare, and many physicians in civil practice report success in the use of Chlorazene in infections, including those of the mucous lined cavities and for burns, ulcers and skin lesions.

PACKAGES AND PRICES

CHLORAZENE is supplied in 4.6-grain tablets, in bottles of 100, at **60c**, in powder; two special packages for general and hospital use: Hospital Package No. 1, to make 1 gallon of 1-percent solution, **55c**; Hospital Package No. 2, to make 5 gallons of 1-percent solution, **$2.00**. Chlorazene Surgical Cream, in 4-ounce jars, each **60c**. Prices on larger quantities on request.

The trade will be stocked, but if your druggist is not supplied we shall be glad to supply you direct, from our home office or branches.

Literature on Request.

THE ABBOTT LABORATORIES

CHICAGO—NEW YORK

Seattle San Francisco Los Angeles Toronto Bombay

PETTEY & WALLACE SANITARIUM

958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets Phone Numbers 6 and 1261

Popular Reclining Chair

The frame is of selected oak, back, seat and leg rest being filled with closely woven cane webbing. All positions can be obtained. Hand rims furnished except when self-propelling attachment is ordered.

Self-Propelling attachment as shown $7.50 extra.

15X204. Steel rim wheels $14.85
15X205. ¾ inch Rubber tire wheels.....$21.75
15X207. 1 inch cushion tires, ball. bearing $28.50

INVALID ROLLING CHAIRS

The only line sold direct by the manufacturer. Satisfaction guaranteed or your money cheerfully refunded.

World's Fair Model

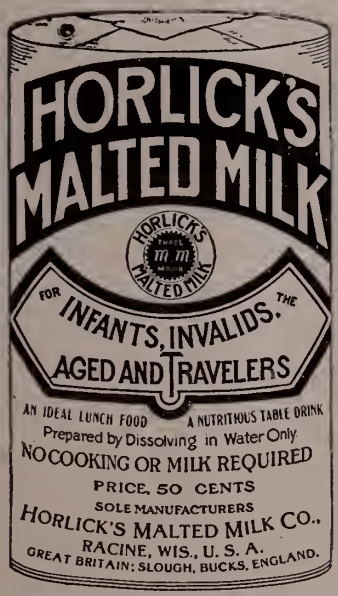
A popular outdoor chair, with comfortable Rattan body, full roll rim, fenders or mud guards over wheels, push handle; mounted on flexible springs. Has basket attached to back for holding books, parcels, etc.

15X273. ¾ inch cushion tire wheels.....$26.40
15X275. 1 inch cushion tires, ball-bearing.....$35.50

FRANK S. BETZ, Hammond, Ind.
Chicago Sales Dept., 30 E. Randolph St.

The Uniform Quality, Purity of Ingredients and High Standard of

Horlick's the Original Malted Milk



Which have been maintained for over a third of a century, make it particularly desirable for infant feeding.

Owing to its high caloric value, nourishing and refreshing properties, and perfect digestibility, it has received the favorable consideration of the profession as a diet in the treatment of Typhoid, Diphtheria, Pneumonia and post operative cases.

Always Specify

"HORLICK'S"

and avoid substitutes

Horlick's Malted Milk Co.

Racine, Wisconsin

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy

Rated Class A. Owned and controlled by the State
Member Association American Medical Colleges

Eighty-eighth Session begins Sept. 28, 1916; ends June 7, 1917

Fine new three-story building immediately opposite the Roper Hospital. All laboratories provided with new and modern equipment.

The Roper Hospital

containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages.

Two years' graduated service in Roper Hospital with six appointments each year.

Eleven full-time teachers in laboratory branches.

For catalog address **OSCAR W. SCHLEETER,** *Registrar*

Lucas and Calhoun Streets Charleston, South Carolina

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

Cholera Infantum

versus

Arsenical Poisoning from Insecticides

—*Which?*

The similarity in symptoms makes it important to differentiate carefully in making your diagnosis

Arsenical fly poisons are all the more a menace in that the poisonous solutions are sweetened, making the dangerous potion enticing to children.

In the past physicians have denounced the poisonous phosphorous match, and this public danger has been eliminated. The baneful arsenical fly draughts **merit like condemnation.**

Following is an extract from "The Transmission of Disease by Flies," Supplement No. 29 to the Public Health Reports, April, 1916:

"Of other fly poisons mention should be made, merely for the purpose of condemnation, of those composed of arsenic. Fatal cases of the poisoning of children through the use of such compounds are far too frequent, and owing to the resemblance of arsenical poisoning to summer diarrhea and cholera infantum, it is believed that the cases reported do not, by any means, comprise the total. Arsenical fly-destroying devices must therefore be rated as extremely dangerous, and should never be used, even if other measures are not at hand."

The Housefly is a Typhoid Carrier

and filth distributor—always "fresh from the foulest filth of every pestilential kind." There is a reliable means of destroying this pest—use

TANGLEFOOT

Absolutely Non-Poisonous
Perfectly Clean—Easily Applied
Always Effective

For over 30 years TANGLEFOOT has merited its reputation as the sure, clean and safe fly destroyer. Our sales exceed 300 million sheets yearly. *Made only by*

The O. & W. Thum Co.
Grand Rapids, Mich.

The Winning Bran Food

We believe that Pettijohn's holds the leading place in bran foods.

Its sales have multiplied of late. And largely because physicians endorse it, we think.

It is soft rolled wheat with bran flakes hidden in it. It meets your demand for a natural food, which everybody likes.

It complies with your preference for flake bran, the efficient form.

Pettijohn's Breakfast Food and Pettijohn's Flour supply bran foods in vast variety, and for every meal.

You will find in them exactly what you want.

Pettijohn's

Rolled Wheat with Bran Flakes

Soft, flavory wheat rolled into luscious flakes, hiding 25 per cent of unground bran. A famous breakfast dainty.

Pettijohn's Flour is 75 per cent fine patent flour mixed with 25 per cent tender bran flakes. To be used like Graham flour in any recipe; but better, because the bran is unground.

The Quaker Oats Company
Chicago

(1592)

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

DR. JAS. N. BRAWNER
DR. HANSELL CRENSHAW } Medical Directors
DR. A. F. BRAWNER

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA, SOUTH CAROLINA

Sherman's Bacterial Vaccines

Preparations with a record for **Reliability**

All the vaccines usually employed in the treatment of infectious diseases marketed in specially devised aseptic antiseptic bulk packages insuring absolute safety in withdrawing contents.

5 c.c. for $1.00 18 c.c. for $3.00
Ampules, 6 in box, $1.50

Daily Users of Vaccines use Sherman's

SHERMAN'S NEW BOOK

JUST OFF THE PRESS
Devoted to the Application of
Bacterial Vaccines

Explaining their therapeutic action—How, When and Where to use them.

More rapid strides have been made and more brilliant results obtained in the Field of Therapeutic Immunization than in any other branch of medicine.

This book contains over 500 pages, is cloth bound and sells for $2.50.

Write for Literature

G. H. SHERMAN, M. D.
3334 Jefferson Ave. E. Detroit, Mich.

Hepco TRADE MARK REGISTERED

Flour *for* Diabetes

makes up readily into a variety of

Tasty, Appetizing Foods

Full directions with each package. FREE SAMPLE and analysis mailed on request to PHYSICIANS

WAUKESHA HEALTH PRODUCTS CO.
113 Grand Ave., Waukesha, Wis.

POMPEIAN OLIVE OIL

ALWAYS FRESH

It is very important that Physicians specify POMPEIAN OLIVE OIL when sugges ing Olive Oil to patients and insisting on patients securing this Standard Brand.

THE POMPEIAN COMPANY
GENOA, ITALY BALTIMORE, U. S. A.

THE STANDARD IMPORTED OLIVE OIL

Simplicity of Preparation

together with ease of assimilation and the assurance that the food prescribed in stubborn and difficult Infant Feeding cases is clean, wholesome and dependable, have earned for

Gail Borden
EAGLE
BRAND
CONDENSED
MILK
THE ORIGINAL

the confidence of the medical profession. Physicians everywhere do not hesitate to prescribe "Eagle Brand" in cases where a high nutritive strength and caloric value is desired.

Samples, Analysis, Feeding Charts in any language, and our 52-page book, "Baby's Welfare," will be mailed upon receipt of professional card.

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Why Every Atom Feeds

Puffed Wheat and Rice are whole grains steam exploded.

A separate explosion occurs in each food cell. Over 100 million occur in each kernel. So every granule is blasted.

The result is easy, complete digestion. And the grains are food confections. They are airy, flaky, thin and nut-like. Whole-grain bubbles, eight times normal size.

Prof. A. P. Anderson is the inventor. His object was to fit grains for food as they never were fitted before. And that is the result.

There are many cases where Puffed Grain foods will best meet your requirements.

The Quaker Oats Company
Chicago
(1588)

Puffed Wheat **Puffed Rice**
and Corn Puffs
Each 15c Except in Far West

COUNTY SOCIETY OFFICERS

ALACHUA COUNTY.

G. W. Floyd, Hawthorne, *President.*
E. T. Kegel, Gainesville, *Secretary-Treasurer.*

BAY COUNTY.

J. Ambus Wells, St. Andrews Quarantine, *President.*
W. D. Cauthon, Panama City, *Secretary-Treasurer.*

BRADFORD COUNTY.

J. P. Tomlinson, Starke, *President.*
A. H. Freeman, Starke, *Secretary-Treasurer.*

BREVARD COUNTY.

L. H. Martin, Melbourne, *President.*
J. C. Spell, Titusville, *Secretary-Treasurer.*

CALHOUN COUNTY.

G. T. Crozier, Blountstown, *President.*
S. S. Bridges, Blountstown, *Secretary.*
E. B. Reeder, Clarksville, *Treasurer.*

COLUMBIA COUNTY.

L. M. Anderson, Lake City, *President*
J. P. Long, Lake City, *Secretary.*

DADE COUNTY.

B. F. Hodson, Miami, *President.*
G. H. Benton, Miami, *Secretary.*

DeSOTO COUNTY.

D. L. McSwain, Arcadia, *President.*
M. L. Crum, Bowling Green, *Secretary-Treasurer.*

DUVAL COUNTY.

W. W. McDonnell, Jacksonville, *President.*
Shaler Richardson, Jacksonville, *Secretary-Treasurer.*

ESCAMBIA COUNTY.

L. deM. Blocker, Pensacola, *President.*
F. A. Brink, Pensacola, *Secretary.*
H. M. Ginsberg, Pensacola, *Treasurer.*

HILLSBOROUGH COUNTY.

Rolling Jefferson, Tampa, *President.*
E. H. McRae, Tampa, *Secretary.*
J. C. Dickinson, Tampa, *Treasurer.*

JACKSON COUNTY.

D. C. Campbell, Marianna, *President.*
G. S. Hodges, Marianna, *Secretary-Treasurer.*

JEFFERSON COUNTY.

J. R. McEachern, Monticello, *President.*
J. B. Brinson, Monticello, *Secretary-Treasurer.*

LAKE COUNTY.

C. M. Roberts, Umatilla, *President.*
W. P. McKee, Eustis, *Secretary-Treasurer.*

LEON COUNTY.

Ralph N. Greene, Chattahoochee, *President.*
F. Clifton Moor, Tallahassee, *Secretary-Treasurer.*

MARION COUNTY.

D. M. Smith, Ocala, *President.*
J. Harry Walters, Ocala, *Secretary-Treasurer.*

MANATEE COUNTY.

H. Gates, Bradentown, *President.*
S. G. Hollingsworth, Bradentown, *Secretary-Treasurer.*

MONROE COUNTY.

J. Y. Porter, Jr., Key West, *President.*

ORANGE COUNTY.

S. Puleston, Sanford, *President.*
C. A. Boone, Orlando, *Secretary-Treasurer.*

OSCEOLA COUNTY.

M. J. Hicks, Kissimmee, *President.*
H. S. Geiger, Kissimmee, *Secretary-Treasurer.*

PASCO COUNTY.

R. D. Sistrunk, Dade City, *President.*
H. W. Wade, Dade City, *Secretary-Treasurer.*

PINELLAS COUNTY.

A. P. Albaugh, Tarpon Springs, *President.*
W. M. Davis, St. Petersburg, *Secretary-Treasurer.*

POLK COUNTY.

J. M. Oglesby, Bartow, *President.*
Herman Watson, Lakeland, *Secretary-Treasurer.*

PUTNAM COUNTY.

G. E. Welch, Palatka, *President.*
J. C. Chandler, Palatka, *Secretary-Treasurer.*

SANTA ROSA COUNTY.

A. C. Carter, Milton, *President.*
Z. V. Johnson, Milton, *Secretary-Treasurer.*

SUWANNEE COUNTY.

J. E. Pennington, Welborn, *President.*
T. S. Anderson, Live Oak, *Secretary-Treasurer.*

ST. LUCIE COUNTY.

E. VanLandinham, Ft. Pierce, *President.*
B. L. Whitten, Ft. Pierce, *Secretary-Treasurer.*

SUMTER COUNTY.

R. C. Hubbard, Bushnell, *President.*
H. Watson, Webster, *Secretary-Treasurer.*

VOLUSIA COUNTY.

F. J. Walter, Daytona, *President.*
L. C. Ingram, DeLand, *Secretary-Treasurer.*

WALTON COUNTY.

E. P. Webb, Laurelhill, *President.*
D. H. Simmons, DeFuniak Springs, *Secretary-Treasurer.*

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

Announcement

The Forty-fourth Annual Meeting

of the

Florida Medical Association

will be in session at

Atlantic Beach, May 18th and May 19th

In addition to an unusually interesting program made up by the Profession of the State, Representatives of

THE UNITED STATES ARMY,

THE UNITED STATES NAVY,

and

THE UNITED STATES PUBLIC HEALTH SERVICE

will be present and will discuss matters of vital interest to the medical profession of the State.

You owe it to yourself and to your profession to be present at what will undoubtedly be the most memorable meeting of the medical profession of your State.

Make your plans to be present, now. To insure your personal comfort make your hotel reservations at once.

A feature will be a week-end at this famous seashore resort. Bring your family with you. The children will be benefited by the trip and will be as safe on this famous beach as in the nursery.

Not only make your plans to attend but come prepared to take an active part in the discussions of the many subjects that will be open for discussion.

Boost for the meeting, boost for your profession, boost for yourself.

A Shop where Quality and Service is preeminent—DREW'S.

We feature complete stocks in every department.

Office Furniture, Commercial Stationery, Fine Correspondence Papers, Books on every subject, Artists' Materials, Pictures, Kodaks, Athletic Goods, Toys, etc.

Wedding and Society Engravers

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

45-49 W. Bay St. 32 and 46 W. Forsyth St.

SEND 30 cents in stamps today and have a copy of The East Florida Annual mailed to the friend you desire should acquire authentic information about Florida. It is a big, finely illustrated book. Anybody will be glad to have a copy.

THE RECORD COMPANY
St. Augustine, Florida

THE CHESTON KING SANITARIUM

A Private Sanitarium for Nervous and Mental Diseases, Alcoholic and Narcotic Inebriety

Careful attention to proper classification of cases. Modern conveniences and accommodations. Facilities excellent. Electricity, Hydrotherapy, Massage and Occupation. Site elevated, retired and beautiful. Twenty-five acres in lawn and garden. Situated between the Capital City Country Club and Greater Oglethorpe University. Patients admitted to our sanitarium can have all the rest and exercise indicated and yet will not come in contact with any objectionable case. A physician in constant attendance. Mail address

THE CHESTON KING SANITARIUM, Peachtree Road, Atlanta, Georgia

THE first consideration in the selection of your x-ray equipment is the machine itself—its dependability. The service you receive goes with that dependability.

The name Victor stands squarely behind the service you expect—the service you can depend upon.

Give us an idea as to the scope of your work (without any obligation on your part) and let us suggest the particular type of apparatus best suited for your needs.

There's a Victor direct representative within a few hours ride from your office—if you need him.

Descriptive literature sent upon request.

VICTOR ELECTRIC CORPORATION

Chicago New York Cambridge

Address all inquiries to VICTOR 236 So. Robey Street, Chicago

Stanolind

Trade Mark Reg. U. S. Pat. Off.

Liquid Paraffin

(Medium Heavy)

Tasteless — Odorless — Colorless

In Treating Hemorrhoids

STANOLIND Liquid Paraffin, used regularly, very generally relieves hemorrhoids and fissure, even when of some years' standing.

Since these morbid conditions are usually the result of constipation, and are aggravated by straining, Stanolind Liquid Paraffin aids by rendering the intestinal contents less adhesive, by allaying irritation and thus by permitting the diseased tissues to become healed.

Where a contraindication for operative treatment exists, the use of Stanolind Liquid Paraffin in these conditions will frequently give relief from distressing symptoms and may even permit the parts to be restored to a condition where operative procedure may be postponed.

The ***special advantage*** of Stanolind Liquid Paraffin lies in the fact that its beneficial effects are not diminished by continual use, as is the case with almost any other laxative.

Stanolind Liquid Paraffin acts by lubrication and by adding bulk to the indigestible intestinal residue.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company

72 West Adams Street *(Indiana)* Chicago, U.S.A. 75a

Consider These Facts

DOCTORS who have investigated the action, properties and residues of various leavening agents, recommend

Calumet Baking Powder

It is used in their own homes. Such ingredients as are used in the manufacture of CALUMET have been approved by the Remsen Board of consulting scientific experts, appointed by the United States Government and composed of men whose ability is acknowledged and whose conclusions are accepted.

CALUMET is a Phosphate Powder in which enough of the acid phosphate has been replaced with Sodium Alum (not drug store alum) to insure its keeping qualities and give the proper speed of action. It is chemically correct.

It is manufactured in the largest, finest and most sanitary baking powder plant in the world. The ingredients used in the manufacture of CALUMET are tested for purity and strength before being compounded and the finished product is given laboratory tests and baking tests. The powder is not touched by human hands at any point in the process of manufacture.

CALUMET is the favorite baking powder in the millions of American homes. It is used by domestic science teachers and expert chefs. It has been used for years in hotels, restaurants, bakeries and public institutions. It is the ideal baking powder for hospitals, sanitariums, etc. Special terms for such institutions mailed on request.

CALUMET BAKING POWDER CO., Chicago, Ill.

"Prevalence of Syphilis"

"The Wassermann reaction is steadily coming into more common use, and its value as a routine procedure is being more fully appreciated. A number of reports of such routine examination have been made, notably one by Dr. Albert A. Homer (Boston Medical and Surgical Journal, Feb. 10, 1916) on 500 cases at the Massachusetts General Hospital, in which he found that 17.4 per cent of the patients gave a positive reaction."

* * *

"Since February, 1916, blood has been drawn from every one admitted (Boston Marine Hospital) and the serum obtained sent to the Hygienic Laboratory at Washington where the test was made. Up to October, 1916, 312 cases were thus tested, and 77, or 24.7 per cent were positive. Readmissions and faulty specimens have been excluded from this series and doubtful reactions have been considered negative."

* * *

"From the above data it would seem fair to conclude: That the prevalence of syphilis is much greater than is shown by ordinary hospital and medical records, and that by the routine use of the Wassermann reaction a large percentage of cases which certainly could not be diagnosed without it, will be recognized and properly treated."—U. S. Pub. Health Service, Reprint No. 378, Nov. 24, 1916.

Information for obtaining specimens and necessary containers furnished gratis.

Laboratory of Dr. Allen H. Bunce

823-6 Healey Bldg., ATLANTA, GA.

LABORATORY OF

DR. GRAHAM E. HENSON

Autogenous Vaccines
Wassermann Test
Blood or Spinal Fluid
Complement-Fixation for Gonorrhoea
Blood Cultures
Cultures from Smears
Analysis of Stomach Contents
Tissues for Diagnosis

$5.00

Total Red & White Cell Count
Differential White Cell Count
Smears for Detection of Malarial Plasmodia
Feces for Parasites
Smears for Gonococci, Spirocheta Pallida, etc.
Sputum
Urinalysis

$2.00

Fees for other special examinations upon request. For containers and other information, address

Suite 334-335 St. James Building DR. GRAHAM E. HENSON JACKSONVILLE, FLORIDA

AUTOGENOUS VACCINES
BLOOD CULTURES
BLOOD COUNTS
ANALYSIS STOMACH CONTENTS

MILK and WATER ANALYSIS
COMPLEMENT FIXATION TESTS
WASSERMANN
GONORRHOEA

AUTOPSIES
PATHOLOGICAL TISSUES
FROZEN SECTION DIAGNOSIS
URINALYSIS

Clinical Pathological Laboratory

HENRY HANSON, M. D.

Rooms 716-717 Professional Bldg. P. O. Box 763

Jacksonville, Florida

Feces for Occult Blood, Animal Parasites, etc. Serological Tests for Identification of Blood Stains

Information and Specimen Outfits sent on request

MELLIN'S FOOD

In every step in the manufacture of Mellin's Food there is constantly in view the ultimate object of making a product of definite composition

to Accomplish a Definite Purpose.

This purpose is to furnish certain food elements which, when added to cow's milk, make it a suitable food for an infant. The food elements in Mellin's Food—carbohydrates (maltose and dextrins), proteins and salts —when dissolved in water and added to cow's milk so change the balance of nutrition in cow's milk that the resulting modification presents fat, proteins, carbohydrates and salts in the proportion needed

for the Development of Infantile Life.

The success of Mellin's Food, therefore, depends not upon any one of the food elements of which it is made up, but upon the definite composition of "Mellin's Food as a whole" as a means to enable the physician to modify cow's milk to meet the requirements of infant feeding

in a Scientific, Rational and Efficient Manner.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

ATLANTIC BEACH HOTEL

(FORMERLY THE CONTINENTAL)

This hotel has for some years past been selected as the most comfortable, best appointed and best situated hotel in the State of Florida, or south of Washington, in which to hold important conventions, as the capacity of this hotel is five hundred, without crowding or using cots.

Surf bathing is unexcelled, and a nominal cost of twenty-five cents is made to its patrons for the use of the bath-house, including suits and service, provided guests do not have their own suits.

Motoring on the beach is the best in the world.

There is an eighteen-hole golf course, six thousand yards, nine holes of which are in splendid condition, the second nine have not yet been opened up. The Lilliput course, just in front of the hotel, has all of the features of golf, nine holes. A nominal charge is made covering both courses.

The Convention Hall is situated at the end of the long piazza and swept by the ocean breezes, and is therefore invariably cool and pleasant, making the summer meeting of conventions a pleasure instead of a hardship to its members.

We are seventeen miles from Jacksonville, a splendid brick boulevard all of the way.

The rates at this hotel for your convention were made last April before the tremendous advance in foodstuffs and service, and will be maintained to the letter, so that every member will be in a position to bring his family with him at a much lower rate, with much better service, than he would find at any other resort this season.

A most hearty welcome is extended to every member of your Association and an assurance to all of them that everything possible will be done for their comfort on their arrival.

I want to impress on the minds of every member of your Association the great importance of making early reservations, so that on their arrival they will be quickly taken care of and all of the usual delay and unpleasantness of a rush will be done away with, and you may feel that you are simply spending a week at the Atlantic Beach Hotel, with or without your family, as individual guests. Members having children may receive special rates, where the same room is occupied.

I trust that you will make this the biggest convention that you have ever held. I attended your last convention and know some of the difficulties which you had to meet, and which I want to eliminate at this hotel.

Rates: Single, with bath, $4.00 to $5.00 per day.
Single, without bath, $3.00 per day.
Two in a room, with bath, $7.00 to $9.00 per day.
Two in a room, without bath, $5.00 per day.

For those desirous of staying the week-end, convention rates will cease after lunch Saturday; the week-end rates including Monday morning breakfast, $5.00 to $7.00.

For further information address

H. M. STANFORD

ATLANTIC BEACH - - - FLORIDA

OF all sugars used for infant feeding in point of easy and rapid assimilation Maltose (malt sugar) has the advantage.

MEAD'S DEXTRI-MALTOSE

supplies this sugar in ideal combination. Serviceable in general feeding cases, but particularly so in nutritional disorders in which milk sugar is the disturbing element.

An energy-giving food, and a satisfactory carbohydrate to increase body-weight.

Samples, feeding tables and descriptive literature on request

MEAD JOHNSON & CO., Mfrs., Evansville, Ind.

The Storm Binder
and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones
No Rubber Elastic
Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.
1541 Diamond Street· PHILADELPHIA, PA.

Seahurst

A private home for the treatment of mental and nervous diseases, selected habit cases, and conditions of general invalidism, has been established in Tampa, Florida, by Dr. Geo. B. Coon and Dr. W. C. Ashworth, both members of the American Medical Association, and with over twenty years' experience in this special field of work. The home is charmingly located on the bay shore and offers the advantages of a private home without suggestion of hospital or sanatorium features.

The profession is cordially invited to visit us at any time, and to write to us for any further information as to terms or for references.

An illustrated pamphlet will be sent upon request.

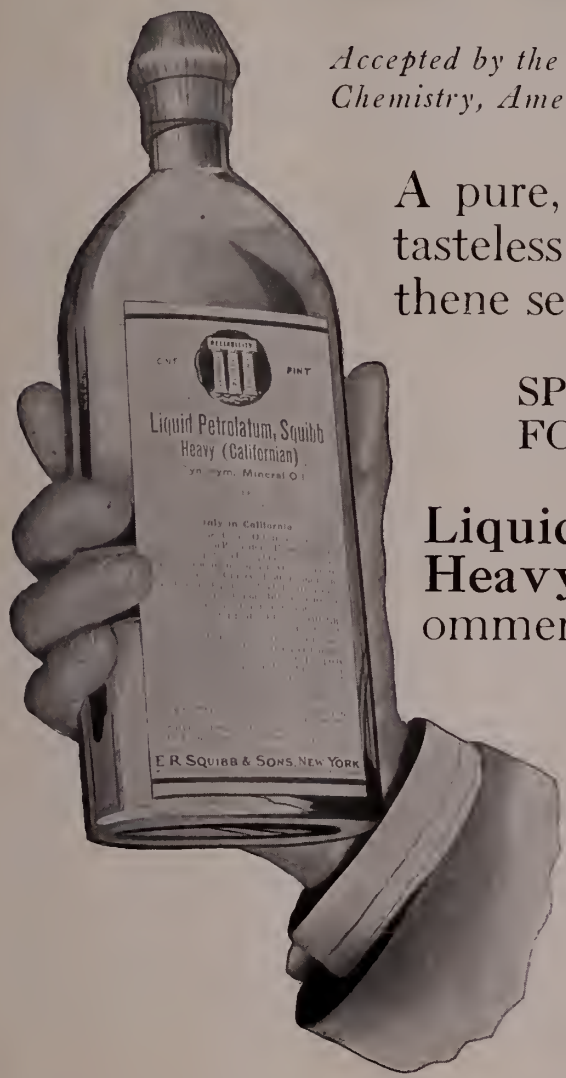
Address

GEO. B. COON, M. D.

Box 1125, Tampa, Florida

Liquid Petrolatum, Squibb
(Heavy Californian)

Accepted by the Council on Pharmacy and Chemistry, American Medical Association



A pure, colorless, odorless and tasteless mineral oil of the naphthene series of hydrocarbons.

SPECIALLY REFINED FOR INTERNAL USE

Liquid Petrolatum, Squibb, Heavy (Californian), is recommended to the medical profession for preventing absorption of bacteria from the intestine and for restoring normal bowel functioning.

It is the most viscous mineral oil on the market; which viscosity is true, i. e., natural, and is effective at the temperature of the inside of the intestine.

It may be administered in any quantities necessary. Its use does not form a habit.

As it is not absorbed it is indicated to regulate the bowels during pregnancy and lactation.

Sold only in one pint original bottles under the Squibb label and guarantee.

Dr. Ferguson's concise handbook on Intestinal Stasis on Constipation will be sent free to any physician on request.

MEDICAL DEPARTMENT

E. R. SQUIBB & SONS, New York

Manufacturing Chemists to the Medical Profession Since 1858

Chloretone

(Tri-chlor-tertiary-butyl alcohol)

An Exceptional Hypnotic

Especially indicated in the treatment of insomnia due to pain, as in tabes dorsalis, nervous excitement, acute mania, acute alcoholism, etc.

ADVANTAGES:

1. It induces profound, refreshing slumber.
2. It is a sedative to the cerebral, gastric and vomiting centers.
3. It is relatively non-toxic.
4. It does not depress the heart or respiratory center.
5. It does not disturb the digestive functions.
6. It produces no depressing after-effects.
7. It is not "habit-forming."

As a well-known professor of medicine and therapeutics in a leading eastern medical college said some years ago:

"Chloretone is our closest approximation to that theoretical hypnotic toward which we have been led through a study of the working hypothesis of the sleep-phenomena."

CHLORETONE: Ounce vials.
CHLORETONE CAPSULES: 3-grain, bottles of 100 and 500.
CHLORETONE CAPSULES: 5-grain, bottles of 100 and 500.
Dose, 3 to 15 grains.

LITERATURE ON APPLICATION.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

50 Years of Pharmaceutical Progress

FORTY-FIFTH ANNUAL SESSION — TAMPA — MAY, 1918

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III
No. 11

St. Augustine and Jacksonville, Fla., May, 1917

Yearly Subscription, $1.00
Single Copy, 15c.

CONTENTS

ORIGINAL ARTICLES

Bacteria in the Economy of Nature, Hiram Byrd, M. D. 324
The Early Diagnosis and Home Treatment of Pulmonary Tuberculosis, R. H. McGinnis, M. D. 330
The Leading and Misleading Symptoms of Kidney Stones, E. P. Merritt, M. D. 331
The Diagnosis and Treatment of Incipient Senile Cataract, W. H. Adams, M. D. 333
Appendical Abscess: Its Treatment and Comparative Frequency in Small Towns and Rural Districts, N. A. Baltzell, M. D. 336
Neurasthenia, John B. White, M. D. 339
Cancer, F. F. Ferris, M. D. 341

Propaganda for Reform 344

EDITORIALS

Registration at the Atlantic Beach Meeting 345

The Mobilization of the Medical Profession 346
Children in War Time 347
Saving Mothers 348
The War and Medical Research 349
The More Recent Graduates Desired 350
Base Hospitals for the Army 350
Men for the Regular Medical Corps 351
Resolutions Alachua County Medical Society .. 351

President's Address 321

Publisher's Notes 352

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines
PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock :

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY
PHARMACEUTICAL AND BIOLOGICAL LABORATORIES INDIANAPOLIS, INDIANA, U. S. A.

LIQUOR HYPOPHYSIS

Pituitary Solution
(ABBOTT)

This product, which we now present to the medical profession, is manufactured with the greatest care and is free from preservatives. It is standardized according to the method of Roth, of the United States Hygienic Laboratory, and conforms to the requirements of the U. S. Pharmacopeia.

PITUITARY SOLUTION (Abbott) is of value as a stimulant of uterine contractions in delayed labor. It is a powerful heart stimulant. Many doctors report excellent results with this product. You can depend upon it.

Tell your druggist to stock for your convenience—and specify "Abbott's" when ordering. In the meantime, if he cannot supply you, order direct or from home office or nearest branch point.

PRICES

Per box of six 1-mil (1-Cc.) ampules.....$1.00
Per box of six ½-mil (½-Cc.) ampules ..... .60

Have You Tried CHLORAZENE?
(Dakin's New Antiseptic)

You Should Use It Because:—

It is a definite chemical compound.
It is less irritant than the hypochlorites.
It is a most powerful antiseptic.
It is virtually non-caustic and non-toxic.
It is stable.
It does not coagulate the albumens of the tissues.
It is supplied in convenient form; tablets and powder.

Try **Chlorazene** in Infections, Lacerated Wounds, Ulcers, Carbuncles, Eczema, Nasal and and Throat Troubles, Intra-uterine Irrigation Following Labor, Douching and Urethral Irrigation, Chancroids, Gonorrhea, Burns, Surgical Work, Pyorrhea.

Literature on Request

THE ABBOTT LABORATORIES
CHICAGO—NEW YORK
Seattle San Francisco Los Angeles Toronto Bombay

PETTEY & WALLACE SANITARIUM
958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets Phone Numbers 6 and 1261

Popular Reclining Chair

The frame is of selected oak, back, seat and leg rest being filled with closely woven cane webbing. All positions can be obtained. Hand rims furnished except when self-propelling attachment is ordered.

Self-Propelling attachment as shown $7.50 extra.

15X204. Steel rim wheels $14.85
15X205. ¾ inch Rubber tire wheels.....$21.75
15X207. 1 inch cushion tires, ball. bearing.....$28.50

INVALID ROLLING CHAIRS

The only line sold direct by the manufacturer. Satisfaction guaranteed or your money cheerfully refunded.

World's Fair Model

A popular outdoor chair, with comfortable Rattan body, full roll rim, fenders or mud guards over wheels, push handle; mounted on flexible springs. Has basket attached to back for holding books, parcels, etc.

15X273. ¾ inch cushion tire wheels.....$26.40
15X275. 1 inch cushion tires, ball-bearing.....$35.50

FRANK S. BETZ, Hammond, Ind.
Chicago Sales Dept., 30 E. Randolph St.

The Uniform Quality, Purity of Ingredients and High Standard of

Horlick's the Original Malted Milk

Which have been maintained for over a third of a century, make it particularly desirable for infant feeding.

Owing to its high caloric value, nourishing and refreshing properties, and perfect digestibility, it has received the favorable consideration of the profession as a diet in the treatment of Typhoid, Diphtheria, Pneumonia and post operative cases.

Always Specify

"HORLICK'S"

and avoid substitutes

Horlick's Malted Milk Co.

Racine, Wisconsin

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy Owned and Controlled by the State

Class "A" of the American Medical Association, member of the Association of American Medical Colleges and of the Conference of Pharmaceutical Faculties.

Fine new three story building opposite the Roper Hospital. Laboratories of Chemistry, Bacteriology, Anatomy, Physiology, Pathology, Clinical Pathology, Pharmacology and Pharmacy provided with new and modern equipment.

The Roper Hospital, containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages and gives students of both schools opportunities for practical work.

Full time teachers in the laboratory branches.

For catalog address **H. E. LOSSE,** *Registrar*

Lucas and Calhoun Streets **Charleston, South Carolina**

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

Cholera Infantum
versus
Arsenical Poisoning from Insecticides
—*Which?*

The similarity in symptoms makes it important to differentiate carefully in making your diagnosis

Arsenical fly poisons are all the more a menace in that the poisonous solutions are sweetened, making the dangerous potion enticing to children.

In the past physicians have denounced the poisonous phosphorous match, and this public danger has been eliminated. The baneful arsenical fly draughts merit like condemnation.

Following is an extract from "The Transmission of Disease by Flies," Supplement No. 29 to the Public Health Reports, April, 1916:

"Of other fly poisons mention should be made, merely for the purpose of condemnation, of those composed of arsenic. Fatal cases of the poisoning of children through the use of such compounds are far too frequent, and owing to the resemblance of arsenical poisoning to summer diarrhea and cholera infantum, it is believed that the cases reported do not, by any means, comprise the total. Arsenical fly-destroying devices must therefore be rated as extremely dangerous, and should never be used, even if other measures are not at hand."

The Housefly is a Typhoid Carrier

and filth distributor—always "fresh from the foulest filth of every pestilential kind." There is a reliable means of destroying this pest —use

TANGLEFOOT

Absolutely Non-Poisonous
Perfectly Clean—Easily Applied
Always Effective

For over 30 years TANGLEFOOT has merited its reputation as the sure, clean and safe fly destroyer. Our sales exceed 300 million sheets yearly. Made only by

The O. & W. Thum Co.
GRAND RAPIDS, MICH.

Bran Food
Made a Perpetual Delight

The usual bran food, as you know, lacks palatability.

Pettijohn's is soft, rolled wheat, which everybody likes. Or white flour mixed with bran.

The bran is in flake form, to make it doubly efficient. It is hidden in a wheat food, of which it forms but 25 per cent.

So Pettijohn's foods, in any form, are welcome. They are natural foods, of which folks never tire.

And the various ways of serving make it easy to establish the bran habit.

These are now the favorite bran foods, and we think they always will be.

Pettijohn's
Rolled Wheat with Bran Flakes

Soft, flavory wheat rolled into luscious flakes, hiding 25 per cent of unground bran. A famous breakfast dainty.

Pettijohn's Flour is 75 per cent fine patent flour mixed with 25 per cent tender bran flakes. To be used like Graham flour in any recipe; but better, because the bran is unground.

The Quaker Oats Company
Chicago

(1591)

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBI SOUTH CAROLINA

Sherman's Bacterial Vaccines

Preparations with a record for **Reliability**

All the vaccines usually employed in the treatment of infectious diseases marketed in specially devised aseptic antiseptic bulk packages insuring absolute safety in withdrawing contents.

5 c.c. for $1.00 18 c.c. for $3.00
Ampules, 6 in box, $1.50

Daily Users of Vaccines use Sherman's

SHERMAN'S NEW BOOK

JUST OFF THE PRESS
Devoted to the Application of
Bacterial Vaccines

Explaining their therapeutic action—How, When and Where to use them.

More rapid strides have been made and more brilliant results obtained in the Field of Therapeutic Immunization than in any other branch of medicine.

This book contains over 500 pages, is cloth bound and sells for $2.50.

Write for Literature

G. H. SHERMAN, M. D.
3334 Jefferson Ave. E. Detroit, Mich.

Hepco TRADE MARK REGISTERED

Flour *for* Diabetes

makes up readily into a variety of

Tasty, Appetizing Foods

Full directions with each package. FREE SAMPLE and analysis mailed on request to PHYSICIANS

WAUKESHA HEALTH PRODUCTS CO.
113 Grand Ave., Waukesha, Wis.

HOW ARE LIBERTY BONDS OBTAINED?

Blank forms of application for the purchase of these bonds can be obtained from the Treasury Department, any Federal Reserve Bank, any National, State, or private bank, any express office, and any postoffice in the United States. Any bank or postmaster will aid applicant in filling out his blank and the other acts necessary to obtain these bonds.

The Nutritional Strength and Caloric Value

of a food is the first thought when laying out a dietetic schedule. Phyiscians and dietitians have for a long time recognized the nutritional strength and caloric value of

Gail Borden
EAGLE
BRAND
CONDENSED
MILK
THE ORIGINAL

This well-known product has the added advantage of being a clean, wholesome and easily prepared food, which is reliably dependable at all times.

Samples, Analysis, Literature, etc., mailed upon receipt of professional card.

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

Extra-Fine Oat Food

Some folks still think that the best oats are imported.

But all the world over Quaker Oats dominates. Even in the British Isles—the home of Scotch and Irish oats—Quaker is the largest-selling brand.

All because we use the queen grains only. The puny, starved grains are omitted. We get but ten pounds of Quaker Oats from a bushel.

That's the secret of the wondrous flavor which holds millions to Quaker Oats. And that's the reason everyone should get them.

They cost no extra price.

10c and 25c Per Package
Except in Distant Sections

Quaker Oats

The Flavory Flakes

(1594)

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

A Shop where Quality and Service is preeminent—DREW'S.

We feature complete stocks in every department.

Office Furniture, Commercial Stationery, Fine Correspondence Papers, Books on every subject, Artists' Materials, Pictures, Kodaks, Athletic Goods, Toys, etc.

Wedding and Society Engravers

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

45-49 W. Bay St. 32 and 46 W. Forsyth St.

MELLIN'S FOOD

In every step in the manufacture of Mellin's Food there is constantly in view the ultimate object of making a product of definite composition

to Accomplish a Definite Purpose.

This purpose is to furnish certain food elements which, when added to cow's milk, make it a suitable food for an infant. The food elements in Mellin's Food—carbohydrates (maltose and dextrins), proteins and salts—when dissolved in water and added to cow's milk so change the balance of nutrition in cow's milk that the resulting modification presents fat, proteins, carbohydrates and salts in the proportion needed

for the Development of Infantile Life.

The success of Mellin's Food, therefore, depends not upon any one of the food elements of which it is made up, but upon the definite composition of "Mellin's Food as a whole" as a means to enable the physician to modify cow's milk to meet the requirements of infant feeding

in a Scientific, Rational and Efficient Manner.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

THE CHESTON KING SANITARIUM

A Private Sanitarium for Nervous and Mental Diseases, Alcoholic and Narcotic Inebriety

Careful attention to proper classification of cases. Modern conveniences and accommodations. Facilities excellent. Electricity, Hydrotherapy, Massage and Occupation. Site elevated, retired and beautiful. Twenty-five acres in lawn and garden. Situated between the Capital City Country Club and Greater Oglethorpe University. Patients admitted to our sanitarium can have all the rest and exercise indicated and yet will not come in contact with any objectionable case. A physician in constant attendance. Mail address

THE CHESTON KING SANITARIUM, Peachtree Road, Atlanta, Georgia

THE first consideration in the selection of your x-ray equipment is the machine itself—its dependability. The service you receive goes with that dependability.

The name Victor stands squarely behind the service you expect—the service you can depend upon.

Give us an idea as to the scope of your work (without any obligation on your part) and let us suggest the particular type of apparatus best suited for your needs.

There's a Victor direct representative within a few hours ride from your office—if you need him.

Descriptive literature sent upon request.

VICTOR ELECTRIC CORPORATION

Chicago New York Cambridge

Address all inquiries to 236 So. Robey Street, Chicago

VICTOR

Stanolind

Trade Mark Reg. U. S. Pat. Off.

Liquid Paraffin

(Medium Heavy)

Tasteless — Odorless — Colorless

In Treating Hemorrhoids

STANOLIND Liquid Paraffin, used regularly, very generally relieves hemorrhoids and fissure, even when of some years' standing.

Since these morbid conditions are usually the result of constipation, and are aggravated by straining, Stanolind Liquid Paraffin aids by rendering the intestinal contents less adhesive, by allaying irritation and thus by permitting the diseased tissues to become healed.

Where a contraindication for operative treatment exists, the use of Stanolind Liquid Paraffin in these conditions will frequently give relief from distressing symptoms and may even permit the parts to be restored to a condition where operative procedure may be postponed.

The ***special advantage*** of Stanolind Liquid Paraffin lies in the fact that its beneficial effects are not diminished by continual use, as is the case with almost any other laxative.

Stanolind Liquid Paraffin acts by lubrication and by adding bulk to the indigestible intestinal residue.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company

72 West Adams Street *(Indiana)* Chicago, U. S. A.

75a

The Best By Every Test

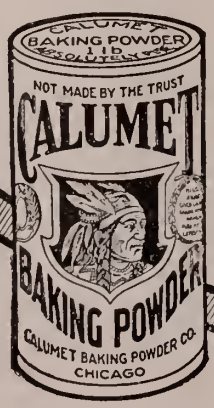
Calumet Baking Powder Excels

CHEMICALLY, it is correct. Enough of the acid phosphate in the powder has been replaced with Sodium Alum (which is not to be confounded with drug-store alum) to insure its keeping qualities and give it proper speed of action in the mix.

PHYSICALLY, it is pure. None but the highest quality of ingredients, carefully tested beforehand, are used in its manufacture, which is carried on in the largest and most sanitary baking-powder plant in the world. The powder is not touched by human hands at any point in the process.

PHYSIOLOGICALLY, it is wholesome. There are no tartrate residues.

DOMESTICALLY, it is efficient and dependable. It keeps well. It gives off its gas neither too quickly or too slowly, but penetrates the entire mix. It produces a dainty and healthful baking.



For all these reasons, CALUMET is the favorite baking powder in millions of American homes, and is widely used in hotels and public institutions. It commands the recommendation of thoughtful physicians.

Special terms for hospitals, sanitariums, etc.

Liquid Petrolatum, Squibb
(Heavy Californian)

Accepted by the Council on Pharmacy and Chemistry, American Medical Association

A pure, colorless, odorless and tasteless mineral oil of the naphthene series of hydrocarbons.

SPECIALLY REFINED FOR INTERNAL USE

Liquid Petrolatum, Squibb, Heavy (Californian), is recommended to the medical profession for preventing absorption of bacteria from the intestine and for restoring normal bowel functioning.

It is the most viscous mineral oil on the market; which viscosity is true, i. e., natural, and is effective at the temperature of the inside of the intestine.

It may be administered in any quantities necessary. Its use does not form a habit.

As it is not absorbed it is indicated to regulate the bowels during pregnancy and lactation.

Sold only in one pint original bottles under the Squibb label and guarantee.

Dr. Ferguson's concise handbook on Intestinal Stasis on Constipation will be sent free to any physician on request.

MEDICAL DEPARTMENT

E. R. SQUIBB & SONS, New York

Manufactaring Chemists to the Medical Profession Since 1858

Chloretone

(Tri-chlor-tertiary-butyl alcohol)

An Exceptional Hypnotic

Especially indicated in the treatment of insomnia due to pain, as in tabes dorsalis, nervous excitement, acute mania, acute alcoholism, etc.

ADVANTAGES:

1. It induces profound, refreshing slumber.
2. It is a sedative to the cerebral, gastric and vomiting centers.
3. It is relatively non-toxic.
4. It does not depress the heart or respiratory center.
5. It does not disturb the digestive functions.
6. It produces no depressing after-effects.
7. It is not "habit-forming."

As a well-known professor of medicine and therapeutics in a leading eastern medical college said some years ago:

"Chloretone is our closest approximation to that theoretical hypnotic toward which we have been led through a study of the working hypothesis of the sleep-phenomena."

CHLORETONE: Ounce vials.
CHLORETONE CAPSULES: 3-grain, bottles of 100 and 500.
CHLORETONE CAPSULES: 5-grain, bottles of 100 and 500.
Dose, 3 to 15 grains.

LITERATURE ON APPLICATION.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

50 Years of Pharmaceutical Progress

FORTY-FIFTH ANNUAL SESSION — TAMPA — MAY, 1918

THE JOURNAL
OF THE
Florida Medical Association

OWNED AND PUBLISHED BY THE FLORIDA MEDICAL ASSOCIATION

VOLUME III
No. 12

St. Augustine and Jacksonville, Fla., June, 1917

Yearly Subscription, $1.00
Single Copy, 15c.

CONTENTS

Proceedings of the forty-fourth annual meeting of the Florida Medical Association 353

ORIGINAL ARTICLES

Gallstone Disease, John E. Boyd, M. D. 363

Roentgen Diagnosis of the Gastrointestinal Tract, L. W. Cunningham, M. D. 365

The Prophylaxis of Syphilis of the Central Nervous System, Graham E. Henson, M. D. 367

Propaganda for Reform 371

EDITORIALS

Selective Conscription for the Medical Reserve Corps of the Army 372

Justice to the Pharmacist 373

Shall Civilian Physicians Examine Recruits... 374

National Committee for Mental Hygiene 374

Decrease in Mortality from Pellagra in 1916.. 375

American Remedies for Chinese Ailments 376

Common Sense 376

Reviews from Current Literature 377

Publisher's Notes 383

Entered as second-class matter under Act of Congress of March 3, 1879, at the Postoffice at St. Augustine, Fla., Oct. 23, 1914

Swan's Bacterial Vaccines

PRODUCE RESULTS WHERE VACCINES ARE INDICATED

We list 22 kinds. Write for booklet containing clinical suggestions, prices, etc.

Florida dealers that have a complete stock :

HAILES PHARMACY
Jacksonville

ESTES PHARMACY
Orlando

RED CROSS PHARMACY
Lakeland

CORNER DRUG STORE
Bartow

PLANT CITY DRUG STORE
Plant City

J. E. MCNAIR, Druggist
Tallahassee

LEON HALE, Druggist
Tampa

PEARRE-O'BRIEN DRUG CO.
St. Petersburg

Six 1 c.c. rubber-stoppered vials, $1.25
6 c.c. bulk package, $1.00 20 c.c. bulk package, $3.00

SWAN-MYERS COMPANY

PHARMACEUTICAL AND BIOLOGICAL LABORATORIES INDIANAPOLIS, INDIANA, U. S. A.

DO YOU KNOW ABOUT PARRESINE?

The Hot-Wax Dressing for Burns

Since the introduction of **Parresine** (Abbott) many splendid reports have been received from prominent surgeons and physicians who have used this product successfully.

Under the **Parresine-Chlorazene** treatment the intense pain of a severe burn is promptly relieved and beneath the wax-like layer of **Parresine**, which is painted with a camel's hair brush or sprayed hot from an atomizer on the wounded surface, new skin grows with unusual rapidity. The danger of scarring and contracture is greatly lessened.

Chlorazene, Dakin's new antiseptic, should be used daily, in all cases, to render the wounded surface aseptic. **Chlorazene** is a powerful antiseptic, yet virtually non-toxic and non-caustic.

PACKAGES AND PRICES.

Parresine is offered to the medical profession at $1.25 per pound postpaid. Usual discount for quantity-orders and to the trade. One full-size half-pound cake, with directions, will be sent to any inquiring physician or pharmacist, on receipt of 75 cents. **Chlorazene**—Price, 60 cents per 100 tablets; 55 cents for Hospital Package No. 1—making 4 gallons of a 0.25 percent solution.

Correspondence with hospitals and large industrial users is requested. Full directions for use accompany every package of Parresine. Literature on request.

Both **Parresine** and **Chlorazene** have been passed by the Council of Pharmacy and Chemistry of the American Medical Association, and supplies of both have been ordered by the United States Navy to be placed on every ship.

THE ABBOTT LABORATORIES
CHICAGO NEW YORK

Seattle San Francisco Los Angeles Toronto Bombay

PETTEY & WALLACE SANITARIUM
958 S Fifth Street
MEMPHIS, TENN.

FOR THE TREATMENT OF

DRUG ADDICTION, ALCOHOLISM MENTAL and NERVOUS DISEASES

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

SWAT the FLY and COOK WITH GAS

Jacksonville Gas Company

Offices Corner Church and Laura Streets Phone Numbers 6 and 1261

WEIGHS 20 POUNDS—COSTS $20.00

Calumet High Frequency Outfit

Easily Carried — Successfully Operated

The simplicity of its operation and yet the high efficiency in treatment work amazes every operator.

The outfit complete weighs but 20 lbs. and it is *easily carried* to the patient's home and as *successfully operated* as in your own office.

The High-Frequency Current ranges from the smallest spark to a volume heavy enough for Fulguration work.

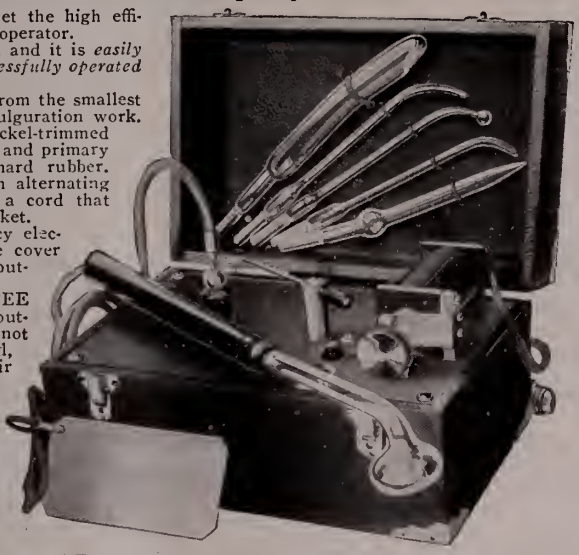
The outfit is mounted in a beautiful nickel-trimmed box, 8x12½x6¾". The switch, spark gap and primary coil are mounted on highly polished hard rubber. The outfit will operate equally well with alternating or direct current and is supplied with a cord that allows you to attach it to any lamp socket.

A complete set of five High-Frequency electrodes and handles are mounted in the cover of the case and are furnished with the outfit without additional charge.

An UNCONDITIONAL GUARANTEE of service for one year goes with each outfit. Use it for 30 days, and if you are not satisfied your money will be refunded, or the instrument will be kept in repair for one year without charge.

The Calumet High-Frequency outfit was never sold before at this price. We will accept your order for the next 30 days on the following basis: $10.00 with the order and $10.00 when you receive the outfit.

YOUR OPINION IS FINAL as to the merit of the outfit; our guarantee protects you absolutely.



FRANK S. BETZ COMPANY, Hammond, Indiana Chicago Sales Dept. 30 East Randolph Street

Horlick's The Original Malted Milk

This is the package. Others are substitutes.

Palatable, agreeable and beneficial to infant, invalid and convalescent.

Horlick's Malted Milk Company, Racine, Wis.

Medical College of the State of South Carolina

Schools of Medicine and Pharmacy Owned and Controlled by the State

Class "A" of the American Medical Association, member of the Association of American Medical Colleges and of the Conference of Pharmaceutical Faculties.

Fine new three story building opposite the Roper Hospital. Laboratories of Chemistry, Bacteriology, Anatomy, Physiology, Pathology, Clinical Pathology, Pharmacology and Pharmacy provided with new and modern equipment.

The Roper Hospital, containing 218 beds and extensive out-patient service, offers unsurpassed clinical advantages and gives students of both schools opportunities for practical work.

Full time teachers in the laboratory branches.

For catalog address H. E. LOSSE, *Registrar*

Lucas and Calhoun Streets Charleston, South Carolina

MELLIN'S FOOD

In every step in the manufacture of Mellin's Food there is constantly in view the ultimate object of making a product of definite composition

to Accomplish a Definite Purpose.

This purpose is to furnish certain food elements which, when added to cow's milk, make it a suitable food for an infant. The food elements in Mellin's Food—carbohydrates (maltose and dextrins), proteins and salts—when dissolved in water and added to cow's milk so change the balance of nutrition in cow's milk that the resulting modification presents fat, proteins, carbohydrates and salts in the proportion needed

for the Development of Infantile Life.

The success of Mellin's Food, therefore, depends not upon any one of the food elements of which it is made up, but upon the definite composition of "Mellin's Food as a whole" as a means to enable the physician to modify cow's milk to meet the requirements of infant feeding

in a Scientific, Rational and Efficient Manner.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

The Atlantic National Bank of Jacksonville

Capital, Surplus and Undivided Profits over One Million, Two Hundred Thousand Dollars.

Total Resources over Nine Million Dollars

We maintain a SAVINGS DEPARTMENT, in which interest is paid at the rate of four per cent. per annum, compounded quarterly.

Officers

EDWARD W. LANE, President
FRED W. HOYT, Vice-President
THOMAS P. DENHAM, Vice-President
D. D. UPCHURCH, Cashier
D. K. CATHERWOOD, Assistant Cashier
W. I. COLEMAN, Assistant Cashier
J. M. QUINCY, Assistant Cashier
E. T. SCHENCK, Assistant Cashier
C. W. WANDELLL, Assistant Cashier

PROFESSIONAL BANKING SERVICE

The kind of banking service needed by professional men differs radically from the needs of the merchant and manufacturer.

It has been a study with us to care for men and women in professional lines. Professional people have long hours of work, leaving them little time for their personal financial affairs.

An account with us would relieve them of many little details and worries. A trial will convince.

FLORIDA NATIONAL BANK
of Jacksonville

Bran Food

Made a Perpetual Delight

The usual bran food, as you know, lacks palatability.

Pettijohn's is soft, rolled wheat, which everybody likes. Or white flour mixed with bran.

The bran is in flake form, to make it doubly efficient. It is hidden in a wheat food, of which it forms but 25 per cent.

So Pettijohn's foods, in any form, are welcome. They are natural foods, of which folks never tire.

And the various ways of serving make it easy to establish the bran habit.

These are now the favorite bran foods, and we think they always will be.

Pettijohn's

Rolled Wheat with Bran Flakes

Soft, flavory wheat rolled into luscious flakes, hiding 25 per cent of unground bran. A famous breakfast dainty.

Pettijohn's Flour is 75 per cent fine patent flour mixed with 25 per cent tender bran flakes. To be used like Graham flour in any recipe; but better, because the bran is unground.

The Quaker Oats Company
Chicago

(1591)

Dr. Brawner's Sanitarium

ATLANTA, GEORGIA

For nervous and mental diseases with separate department for drug and alcohol addictions

The sanitarium is located on the Marietta trolley line, ten miles from the center of the city, near a beautiful suburb, Smyrna.

The grounds comprise eighty acres of shaded lawns. Buildings are steam-heated, electrically lighted, and many rooms have private bath. Building for mental patients absolutely fireproof. Every equipment for the scientific treatment of patients.

Address: Dr. JAMES N. BRAWNER
701-02 Grant Building ATLANTA, GEORGIA

The Waverley Sanitarium

DR. J. W. BABCOCK
DR. E. B. SAUNDERS

for

Nervous Diseases
Mental Disorders
Drug and Alcoholic Addictions
and
Pellagra

COLUMBIA SOUTH CAROLINA

Sherman's Bacterial Vaccines

Preparations with a record for **Reliability**

All the vaccines usually employed in the treatment of infectious diseases marketed in specially devised aseptic antiseptic bulk packages insuring absolute safety in withdrawing contents.

5 c.c. for $1.00 18 c.c. for $3.00
Ampules, 6 in box, $1.50

Daily Users of Vaccines use Sherman's

SHERMAN'S NEW BOOK

JUST OFF THE PRESS
Devoted to the Application of
Bacterial Vaccines

Explaining their therapeutic action—How, When and Where to use them.

More rapid strides have been made and more brilliant results obtained in the Field of Therapeutic Immunization than in any other branch of medicine.

This book contains over 500 pages, is cloth bound and sells for $2.50.

Write for Literature

G. H. SHERMAN, M. D.
3334 Jefferson Ave. E. Detroit, Mich.

Hepco TRADE MARK REGISTERED

Flour *for* Diabetes

makes up readily into a variety of

Tasty, Appetizing Foods

Full directions with each package. FREE SAMPLE and analysis mailed on request to PHYSICIANS

WAUKESHA HEALTH PRODUCTS CO.
113 Grand Ave., Waukesha, Wis.

DR. HENRY HANSON

OF JACKSONVILLE

Having been ordered to active military duty

announces

the closing of his private laboratory

Digestive Disturbances

due to faulty or improper food—are successfully overcome by prescribing

Gail Borden
EAGLE
BRAND
CONDENSED
MILK
THE ORIGINAL

which is made from the highest quality of raw materials by the most modern and sanitary methods of manufacture — guaranteeing a finished product that at all times is clean, wholesome and dependable.

Samples, Analysis, Literature, etc., mailed upon receipt of professional card.

Borden's Condensed Milk Company
"Leaders of Quality"
Est. 1857
New York

All Food Cells Exploded

We create in each grain of Puffed Wheat or Rice more than 100 million explosions.

The bit of moisture inside of each granule is changed to steam. Then, by shooting from guns, all these cells are exploded.

Thus the grains are puffed to bubbles, eight times normal size. They are made thin, airy, flaky, crisp—fascinating morsels.

They are fitted for easy, complete digestion. And every atom feeds.

These are Prof. Anderson's hygienic foods. No other process, we believe, breaks half so many food cells. In many cases you will find them just the foods you want.

The Quaker Oats Company
Chicago

(1587)

Puffed Wheat **Puffed Rice**
and Corn Puffs
Each 15c Except in Far West

Tulane University of Louisiana

COLLEGE of MEDICINE

(Established in 1834)

School of Medicine—

Admission: One year of college work in the sciences and a modern foreign language.

After January 1, 1918, all students entering the Freshman Class will be required to present credits for two years of college work, which must include Biology, Chemistry and Physics, with their laboratories, and one year in German or French.

Graduate School of Medicine—

A school for physicians desiring practical clinical opportunities, review, laboratory technic or cadaveric work in surgery or gynecology. Excellent facilities offered in all special branches.

School of Hygiene and Tropical Medicine, including Preventive Medicine—Systematic courses offered, leading to certificates in Public Health, diploma in Tropical Medicine, and to the degree of Dr. P. H. Laboratory, Clinic and Field Work.

School of Pharmacy—

Admission: Three years of high school work, or 12 units. Two years for Ph.G. degree. Three years for Ph.C. degree.

School of Dentistry—

Admission: Four years of high school work, with 15 units. Thorough, practical, as well as comprehensive technical training in dentistry.

Women admitted to all Schools on the same terms as men.

For catalogs and all other information, address

TULANE COLLEGE OF MEDICINE

P. O. Box 770, NEW ORLEANS, LA.

A Shop where Quality and Service is preeminent—DREW'S.

We feature complete stocks in every department.

Office Furniture, Commercial Stationery, Fine Correspondence Papers, Books on every subject, Artists' Materials, Pictures, Kodaks, Athletic Goods, Toys, etc.

Wedding and Society Engravers

THE H.&W.B. Drew Co.
STATIONERY, BOOK AND ART STORE.

45-49 W. Bay St. 32 and 46 W. Forsyth St.

"IN probably no other line of business in Florida does one firm so far outclass all its competitors as does the RECORD COMPANY when it comes to fine printing."

One of the biggest printing buyers in Florida said that.

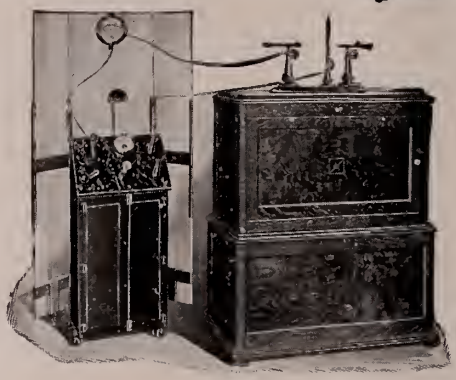
THE CHESTON KING SANITARIUM

A Private Sanitarium for Nervous and Mental Diseases, Alcoholic and Narcotic Inebriety

Careful attention to proper classification of cases. Modern conveniences and accommodations. Facilities excellent. Electricity, Hydrotherapy, Massage and Occupation. Site elevated, retired and beautiful. Twenty-five acres in lawn and garden. Situated between the Capital City Country Club and Greater Oglethorpe University. Patients admitted to our sanitarium can have all the rest and exercise indicated and yet will not come in contact with any objectionable case. A physician in constant attendance. Mail address

THE CHESTON KING SANITARIUM, Peachtree Road, Atlanta, Georgia

VICTOR



The Improved Model Snook Interrupterless Roentgen Generator — the latest product of the Victor factory.

Incorporated in its design are several important improvements — the result of "moving forward with the times."

The capacity has been materially increased, but the price remains the same:

220 volt direct current, $1550.00 — 220 volt, 60 cycle alternating current, $1450.00

Complete data is given in the new "Model Snook Bulletin"

VICTOR ELECTRIC CORPORATION

Manufacturers of a Complete Line of Roentgen and Electro-Medical Apparatus

CHICAGO ∴ NEW YORK ∴ CAMBRIDGE

Address all inquiries to 236 S. Robey St., Chicago

Stanolind
Trade Mark Reg. U. S. Pat. Off.
Liquid Paraffin
(Medium Heavy)

Tasteless — Odorless — Colorless

Before Operation

Stanolind Liquid Paraffin is an ideal laxative for surgical practice.

When used in the proper dose, it thoroughly empties the alimentary canal, without producing irritation or other undesirable effects.

It is particularly valuable in intestinal surgery, because it leaves the stomach and bowels in a quiet state, and because its use is not followed by an increased tendency to constipation.

After an abdominal operation, one or two ounces of Stanolind Liquid Paraffin may be given through a tube while the patient is still under the anaesthetic, or as an emulsion, an hour or two later.

Stanolind Liquid Paraffin is essentially *bland* in its action, causing a minimum amount of irritation while in stomach or intestine. It may also in most cases be gradually reduced without apparently affecting the frequency of the evacuations.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company
(Indiana)
72 West Adams Street
Chicago, U. S. A.

74a

CALUMET
BAKING POWDER

Complies with pure food laws, State and National.

The wholesomeness of such ingredients as are used in Calumet is attested by The Remsen Referee Board.

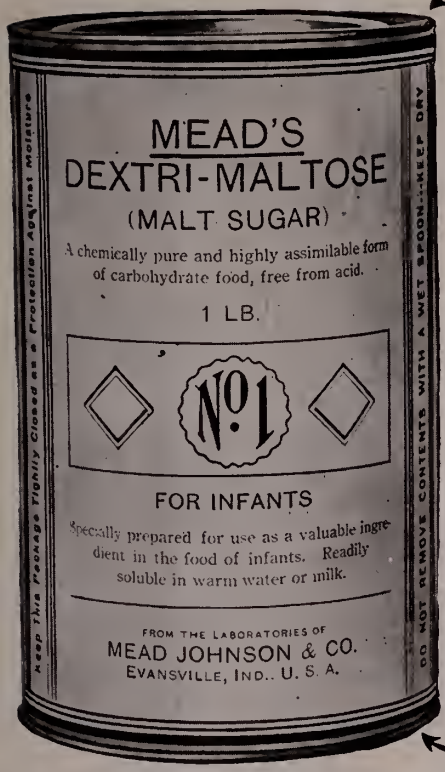
It is recommended by Physicians and Chemists.

It is manufactured in the largest, finest and most sanitary Baking Powder Plant in the world.

It is used by domestic science teachers and experts.

It is the favorite Baking Powder in millions of American homes.

Calumet Baking Powder Co.
CHICAGO, ILL.



MAXIMUM

TOLERANCE, ASSIMILABILITY

+

MINIMUM

DIGESTIVE DISTURBANCES, DIARRHOEA

=

An Efficient Carbohydrate

Is why nearly all pediatrists prescribe **Mead's Dextri-Maltose** in formulae for

INFANT FEEDING

Let us send you samples and literature fully describing the simplicity of using Dextri-Maltose in any milk mixture in the same proportion as milk or cane sugar, but with better results.

MEAD JOHNSON & CO.
Evansville, Indiana

The Storm Binder and Abdominal Supporter

Patented

Men, Women, Children and Babies

No Whalebones
No Rubber Elastic
Washable as Underwear

For Hernia, Pertussis, Relaxed Sacro-iliac Articulations, Floating Kidney, Obesity, Pregnancy, etc.

Send for Illustrated Folder and Testimonials of Physicians. Mail Orders filled within 24 hours.

KATHERINE L. STORM, M. D.
1541 Diamond Street PHILADELPHIA, PA.

Seahurst

A private home for the treatment of mental and nervous diseases, selected habit cases, and conditions of general invalidism, has been established in Tampa, Florida, by Dr. Geo. B. Coon and Dr. W. C. Ashworth, both members of the American Medical Association, and with over twenty years' experience in this special field of work. The home is charmingly located on the bay shore and offers the advantages of a private home without suggestion of hospital or sanatorium features.

The profession is cordially invited to visit us at any time, and to write to us for any further information as to terms or for references.

An illustrated pamphlet will be sent upon request.

Address

GEO. B. COON, M. D.

Box 1125, Tampa, Florida

"Prevalence of Syphilis"

"The Wassermann reaction is steadily coming into more common use, and its value as a routine procedure is being more fully appreciated. A number of reports of such routine examination have been made, notably one by Dr. Albert A. Homer (Boston Medical and Surgical Journal, Feb. 10, 1916) on 500 cases at the Massachusetts General Hospital, in which he found that 17.4 per cent of the patients gave a positive reaction."

* * *

"Since February, 1916, blood has been drawn from every one admitted (Boston Marine Hospital) and the serum obtained sent to the Hygienic Laboratory at Washington where the test was made. Up to October, 1916, 312 cases were thus tested, and 77, or 24.7 per cent were positive. Readmissions and faulty specimens have been excluded from this series and doubtful reactions have been considered negative."

* * *

"From the above data it would seem fair to conclude: That the prevalence of syphilis is much greater than is shown by ordinary hospital and medical records, and that by the routine use of the Wassermann reaction a large percentage of cases which certainly could not be diagnosed without it, will be recognized and properly treated."—U. S. Pub. Health Service, Reprint No. 378, Nov. 24, 1916.

Information for obtaining specimens and necessary containers furnished gratis.

Laboratory of Dr. Allen H. Bunce

823-6 Healey Bldg., ATLANTA, GA.

ST. LUKE'S HOSPITAL

Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

Liquid Petrolatum, Squibb
(Heavy Californian)

Accepted by the Council on Pharmacy and Chemistry, American Medical Association

A pure, colorless, odorless and tasteless mineral oil of the naphthene series of hydrocarbons.

SPECIALLY REFINED FOR INTERNAL USE

Liquid Petrolatum, Squibb, Heavy (Californian), is recommended to the medical profession for preventing absorption of bacteria from the intestine and for restoring normal bowel functioning.

It is the most viscous mineral oil on the market; which viscosity is true, i. e., natural, and is effective at the temperature of the inside of the intestine.

It may be administered in any quantities necessary. Its use does not form a habit.

As it is not absorbed it is indicated to regulate the bowels during pregnancy and lactation.

Sold only in one pint original bottles under the Squibb label and guarantee.

Dr. Ferguson's concise handbook on Intestinal Stasis on Constipation will be sent free to any physician on request.

MEDICAL DEPARTMENT

E. R. SQUIBB & SONS, New York

Manufacturing Chemists to the Medical Profession Since 1858

GERMICIDAL SOAP

"The Soap of a Hundred Uses."

Germicidal Soap, P. D. & Co., is a valuable disinfectant in surgery, in gynecology, in obstetrics, and in routine practice. It cleanses and penetrates at the same time. It is always ready for use. No weighing or measuring is necessary. There is no waste. Hands, instruments and field of operation are quickly disinfected with one material.

As a germ-destroyer **Germicidal Soap, P. D. & Co.,** is twenty times as powerful as carbolic acid.

SOME SUGGESTED USES.

To prepare antiseptic solutions.
To sterilize hands, instruments and site of operation.
To cleanse wounds, ulcers, etc.
To lubricate sounds and specula.
To destroy infecting organisms in skin diseases.
To disinfect surface lesions.
To control the itching of skin infections.
To make solutions for the vaginal douche.
To counteract the odors of offensive hyperidrosis.
To destroy pediculi.
To cleanse the hair and scalp.
To remove and prevent dandruff.
To disinfect vessels, utensils, etc.

Germicidal Soap does not attack nickeled or steel instruments. It does not coagulate albumin.

GERMICIDAL SOAP, MILD:

Contains 1 per cent. of mercuric iodide: large cakes, one in a carton; small cakes, five in a carton.
For other forms see our catalogue.

Home Offices and Laboratories,
Detroit, Michigan.

Parke avis & Co.

50 Years of Pharmaceutical Progress